AUTHOR INDEX VOLUME 129

A

Aaronson, S. A. *See* LaRochelle, Dirsch, Finch, Cheon, May, Marchese, Pierce, and Aaronson.

Acharya, U., McCaffery, J. M., Jacobs, R., and Malhotra, V. Reconstitution of vesiculated Golgi membranes into stacks of cisternae: Requirement of NSF in stack formation. 577.

Adam, T., Arpin, M., Prévost, M.-C., Gounon, P., and Sansonetti, P. J. Cytoskeletal rearrangements and functional role of T-plastin during entry of *Shigella flexneri* into HeLa cells. 367.

Aeschlimann, D., Kaupp, O., and Paulsson, M. Transglutaminase-catalyzed matrix cross-linking in differentiating cartilage: Identification of osteonectin as a major glutaminyl substrate. 881.

Alitalo, K. *See* Mustonen and Alitalo.

Alonso, S. *See* Kelly, Alonso, Tajbakhsh, Cossu, and Buckingham.

Alpern, R. J. *See* Franch, Shay, Alpern, and Preisig.

Altieri, D. C. *See* Li, Xie, Kantor, Koistinen, Altieri, Nortamo, and Gahmberg.

Anderson, K. *See* Small, Herzog, and Anderson.

Andersson-Fisone, C. *See* Marrs, Andersson-Fisone, Jeong, Cohen-Gould, Zurzolo, Nabi, Rodriguez-Boulan, and Nelson.

Andrews, N. W. *See* Rodríguez, Rioult, Ora, and Andrews.

Apel, K. *See* Reinbothe, Reinbothe, Runge, and Apel.

Argraves, W. S. *See* Godyna, Liau, Popa, Stefansson, and Argraves.

Arneson, L. S., and Miller, J. Efficient endosomal localization of major histocompatibility complex class II–invariant chain complexes requires multimerization of the invariant chain targeting sequence. 1217.

Arpin, M. *See* Adam, Arpin, Prévost, Gounon, and Sansonetti.

Artavanis-Tsakonas, S. *See* Dawson, Roth, and Artavanis-Tsakonas.

Attaran, A. *See* Todorov, Attaran, and Kearsey.

Avraham, D. *See* Taraboulos, Scott, Semenov, Avraham, Laszlo, and Prusiner.

Ayalon, O. *See* Lampugnani, Corada, Caveda, Breviario, Ayalon, Geiger, and Dejana.

B

Bähler, M. *See* Stöffler, Ruppert, Reinhard, and Bähler.

Bailey, N. *See* Streuli, Schmidhauser, Bailey, Yurchenco, Skubitz, Roskelley, and Bissell.

Ball, W. J., Jr. *See* Lewis Carl, Felix, Caswell, Brandt, Ball, Vaghy, Meissner, and Ferguson.

Baisamo, J., Ernst, H., Zanin, M. K. B., Hoffman, S., and Lilien, J. The interaction of the retina cell surface *N*-acetylgalactosaminyl-phosphotransferase with an endogenous proteoglycan ligand results in inhibition of cadherin-mediated adhesion. 1391.

Bauer, R. E. *See* Gratzer, Lithgow, Bauer, Lamping, Paltauf, Kohlwein, Haucke, Junne, Schatz, and Horst.

Beck, T. *See* Wang, Millan, Cox, Der, Rapp, Beck, Zha, and Reed.

Benlimame, N., Simard, D., and Nabi, I. R. Autocrine motility factor receptor is a marker for a distinct membranous tubular organelle. 459.

Berthiaume, E. P., Medina, C., and Swanson, J. A. Molecular size-fractionation during endocytosis in macrophages. 989.

Bikfalvi, A., Klein, S., Pintucci, G., Quarto, N., Mignatti, P., and Rifkin, D. B. Differential modulation of cell phenotype by different molecular weight forms of basic fibroblast growth factor: Possible intracellular signaling by the high molecular weight forms. 233.

Bishop, J. D. *See* Yuen, Jain, Bishop, Lindsey, Deery, Van Haastert, and Gomer.

Bissell, M. J. *See* Lin, Dempsey, Coffey, and Bissell.

— *See* Streuli, Schmidhauser, Bailey, Yurchenco, Skubitz, Roskelley, and Bissell.

Boontrakulpoontawee, P. *See* Otsuka, Franco, Yang, Shim, Tang, Zhang, Boontrakulpoontawee, Jeyaprakash, Hedgecock, Wheaton, and Sobery.

Borregaard, N. *See* Lollike, Borregaard, and Lindau.

Bowen, J. *See* Gaertig, Cruz, Bowen, Gu, Pennock, and Gorovsky.

Brady, M. J. *See* Mastick, Brady, and Saltiel.

Brakenhoff, R. H., Gerretsen, M., Knippels, E. M. C., van Dijk, M., van Essen, H., Weghuis, D. O., Sinke, R. J., Snow, G. B., and van Dongen, G. A. M. S. The human E48 antigen, highly homologous to the murine Ly-6 antigen ThB, is a GPI-anchored molecule apparently involved in keratinocyte cell–cell adhesion. 1677.

Brandt, N. R. *See* Lewis Carl, Felix, Caswell, Brandt, Ball, Vaghy, Meissner, and Ferguson.

Braun, R. E. *See* Schumacher, Lee, Edelhoff, and Braun.

Bregman, D. B., Du, L., van der Zee, S., and Warren, S. L. Transcription-dependent redistribution of the large subunit of RNA polymerase II to discrete nuclear domains. 287.

Breton, M. *See* Guinebault, Payrastre, Racaud-Sultan, Mazarguil, Breton, Mauco, Plantavid, and Chap.

Breviario, F. *See* Lampugnani, Corada, Caveda, Breviario, Ayalon, Geiger, and Dejana.

Brewer, C. B. *See* Naim, Dodds, Brewer, and Roth.

Briggs, K. K., Silvers, A. J., Johansen, K. M., and Johansen, J. Calsensin: A novel calcium-binding protein expressed in a subset of peripheral leech neurons fasciculating in a single axon tract. 1355.

Brophy, P. J. *See* Fannon, Sherman, Ilyina-Gragerova, Brophy, Friedrich, and Colman.

Buckingham, M. *See* Kelly, Alonso, Tajbakhsh, Cossu, and Buckingham.

Butterweck, A. *See* Elfgang, Eckert, Lichtenberg-Fraté, Butterweck, Traub, Klein, Hülser, and Willecke.

C

Campbell, K. P. *See* Cohen, Jacobson, Godfrey, Campbell, and Carbonetto.

Campbell, M. S., and Gorbsky, G. J. Microinjection of mitotic cells with the 3F3/2 anti-phosphoepitope antibody delays the onset of anaphase. 1195.

Caplow, M., Ruhlen, R. L., and Shanks, J. The free energy for hydrolysis of a microtubule-bound nucleotide triphosphate is near zero: All of the free energy for hydrolysis is stored in the microtubule lattice: Correction. 549.

Carbonetto, S. *See* Cohen, Jacobson, Godfrey, Campbell, and Carbonetto.

Caswell, A. H. *See* Lewis Carl, Felix, Caswell, Brandt, Ball, Vaghy, Meissner, and Ferguson.

Caveda, L. *See* Lampugnani, Corada, Caveda, Breviario, Ayalon, Geiger, and Dejana.

Chang, J. *See* Kruth, Skarlatos, Lilly, Chang, and Ifrim.

Chant, J., Mischke, M., Mitchell, E., Herskowitz, I., and Pringle, J. R. Role of Bud3p in producing the axial budding pattern of yeast. 767.

— **and Pringle, J. R.** Patterns of bud-site selection in the yeast *Saccharomyces cerevisiae.* 751.

Chap, H. *See* Guinebault, Payrastre, Racaud-Sultan, Mazarguil, Breton, Mauco, Plantavid, and Chap.

Chen, J. *See* Nakagawa, Chen, Zhang, Kanai, and Hirokawa.

Cheng, J. *See* Lloyd, Yu, Cheng, Turksen, Degenstein, Hutton, and Fuchs.

Cheng, L., Khan, M., and Mudge, A. W. Calcitonin gene-related peptide promotes Schwann cell proliferation. 789.

Cheon, H.-G. *See* LaRochelle, Dirsch, Finch, Cheon, May, Marchese, Pierce, and Aaronson.
Chilcote, T. J., Galli, T., Mundigl, O., Edelmann, L., McPherson, P. S., Takei, K., and De Camilli, P. Cellubrevin and synaptobrevins: Similar subcellular localization and biochemical properties in PC12 cells. 219.
— *See* Garcia, McPherson, Chilcote, Takei, and De Camilli.
Chrétien, D., Fuller, S. D., and Karsenti, E. Structure of growing microtubule ends: Two-dimensional sheets close into tubes at variable rates. 1311.
Cockell, M., Palladino, F., Laroche, T., Kyrion, G., Liu, C., Lustig, A. J., and Gasser, S. M. The carboxy termini of Sir4 and Rap1 affect Sir3 localization: Evidence for a multicomponent complex required for yeast telomeric silencing. 909.
Codazzi, F. *See* Lorenzon, Zacchetti, Codazzi, Fumagalli, Meldolesi, and Grohovaz.
Coffey, R. J. *See* Lin, Dempsey, Coffey, and Bissell.
Cohen, M. W., Jacobson, C., Godfrey, E. W., Campbell, K. P., and Carbonetto, S. Distribution of α-dystroglycan during embryonic nerve–muscle synaptogenesis. 1093.
Cohen-Gould, L. *See* Marrs, Andersson-Fisone, Jeong, Cohen-Gould, Zurzolo, Nabi, Rodriguez-Boulan, and Nelson.
Cole, C. N. *See* Gorsch, Dockendorff, and Cole.
Colman, D. R. *See* Fannon, Sherman, Ilyina-Gragerova, Brophy, Friedrich, and Colman.
Conibear, E. *See* Nothwehr, Conibear, and Stevens.
Corada, M. *See* Lampugnani, Corada, Caveda, Breviario, Ayalon, Geiger, and Dejana.
Cosson, P. *See* Letourneur, Hennecke, Démollière, and Cosson.
Cossu, G. *See* Kelly, Alonso, Tajbakhsh, Cossu, and Buckingham.
Cox, A. D. *See* Wang, Millan, Cox, Der, Rapp, Beck, Zha, and Reed.
Craig, J. *See* Slack, Skerjanc, Lach, Craig, Jardine, and McBurney.
Cruz, M. A. *See* Gaertig, Cruz, Bowen, Gu, Pennock, and Gorovsky.
Cullen, T. *See* Spinardi, Einheber, Cullen, Milner, and Giancotti.
Cunningham, C. C. Actin polymerization and intracellular solvent flow in cell surface blebbing. 1589.

D

Damsky, C. H. *See* Huhtala, Humphries, McCarthy, Tremble, Werb, and Damsky.
— *See* Tremble, Damsky, and Werb.
Daneholt, B. *See* Mehlin, Daneholt, and Skoglund.
Dautry-Varsat, A. *See* Hémar, Subtil, Lieb, Morelon, Hellio, and Dautry-Varsat.
Dawson, I. A., Roth, S., and Artavanis-Tsakonas, S. The *Drosophila* cell cycle gene *fizzy* is required for normal degradation of cyclins A and B during mitosis and has homology to the *CDC20* gene of *Saccharomyces cerevisiae*. 725.
De Camilli, P. *See* Chilcote, Galli, Mundigl, Edelmann, McPherson, Takei, and De Camilli.
— *See* Garcia, McPherson, Chilcote, Takei, and De Camilli.
de Crombrugghe, B. *See* Rossert, Eberspaecher, and de Crombrugghe.
Deery, W. J. *See* Yuen, Jain, Bishop, Lindsey, Deery, Van Haastert, and Gomer.
Degenstein, L. *See* Lloyd, Yu, Cheng, Turksen, Degenstein, Hutton, and Fuchs.
Dejana, E. *See* Lampugnani, Corada, Caveda, Breviario, Ayalon, Geiger, and Dejana.
De Luca, M. *See* Zambruno, Marchisio, Marconi, Vaschieri, Melchiori, Giannetti, and De Luca.
Démollière, C. *See* Letourneur, Hennecke, Démollière, and Cosson.
Dempsey, P. J. *See* Lin, Dempsey, Coffey, and Bissell.
Der, C. J. *See* Wang, Millan, Cox, Der, Rapp, Beck, Zha, and Reed.
Devreotes, P. N. *See* Lilly and Devreotes.
— *See* Wu, Valkema, Van Haastert, and Devreotes.
DeWald, D. B. *See* Stack, DeWald, Takegawa, and Emr.
Dirsch, O. R. *See* LaRochelle, Dirsch, Finch, Cheon, May, Marchese, Pierce, and Aaronson.
Dockendorff, T. C. *See* Gorsch, Dockendorff, and Cole.
Dodds, D. T. *See* Naim, Dodds, Brewer, and Roth.
Doerschuk, C. M. *See* Pavalko, Walker, Graham, Goheen, Doerschuk, and Kansas.
Dragas-Granoic, S. *See* Kuriyama, Kofron, Essner, Kato, Dragas-Granoic, Omoto, and Khodjakov.
Dreyfuss, G. *See* Siomi and Dreyfuss.
Du, L. *See* Bregman, Du, van der Zee, and Warren.
Durbeej, M. *See* Kadoya, Kadoya, Durbeej, Holmvall, Sorokin, and Ekblom.
Dyer, J. M. *See* Marshall, Krimkevich, Lark, Dyer, Veenhuis, and Goodman.

E

Eberspaecher, H. *See* Rossert, Eberspaecher, and de Crombrugghe.
Eckert, R. *See* Elfgang, Eckert, Lichtenberg-Fraté, Butterweck, Traub, Klein, Hülser, and Willecke.
Edelhoff, S. *See* Schumacher, Lee, Edelhoff, and Braun.
Edelmann, L. *See* Chilcote, Galli, Mundigl, Edelmann, McPherson, Takei, and De Camilli.
Egerton, M. *See* Hamburger, Egerton, and Riezman.
Einheber, S., Hannocks, M.-J., Metz, C. N., Rifkin, D. B., and Salzer, J. L. Transforming growth factor-β1 regulates axon/schwann cell interactions. 443.
— *See* Spinardi, Einheber, Cullen, Milner, and Giancotti.
Ekblom, P. *See* Kadoya, Kadoya, Durbeej, Holmvall, Sorokin, and Ekblom.
Elder, G. *See* Tu, Elder, Lazzarini, Nelson, Trojanowski, and Lee.
Elfgang, C., Eckert, R., Lichtenberg-Fraté, H., Butterweck, A., Traub, O., Klein, R. A., Hülser, D. F., and Willecke, K. Specific permeability and selective formation of gap junction channels in connexin-transfected HeLa cells. 805.
Emr, S. D. *See* Stack, DeWald, Takegawa, and Emr.
Enomoto-Iwamoto, M. *See* Takebayashi, Iwamoto, Jikko, Matsumura, Enomoto-Iwamoto, Myoukai, Koyama, Yamaai, Matsumoto, Nakamura, Kurisu, and Noji.
Ernst, H. *See* Balsamo, Ernst, Zanin, Hoffman, and Lilien.
Essner, R. *See* Kuriyama, Kofron, Essner, Kato, Dragas-Granoic, Omoto, and Khodjakov.

F

Fannon, A. M., Sherman, D. L., Ilyina-Gragerova, G., Brophy, P. J., Friedrich, V. L., Jr., and Colman, D. R. Novel E-cadherin-mediated adhesion in peripheral nerve: Schwann cell architecture is stabilized by autotypic adherens junctions. 189. Correction. 1721.
Favre, B. *See* Turowski, Fernandez, Favre, Lamb, and Hemmings.
Felix, K. *See* Lewis Carl, Felix, Caswell, Brandt, Ball, Vaghy, Meissner, and Ferguson.
Ferguson, D. G. *See* Lewis Carl, Felix, Caswell, Brandt, Ball, Vaghy, Meissner, and Ferguson.
— *See* Sun, Protasi, Takahashi, Takeshima, Ferguson, and Franzini-Armstrong.
Fernandez, A. *See* Turowski, Fernandez, Favre, Lamb, and Hemmings.
Finch, P. W. *See* LaRochelle, Dirsch, Finch, Cheon, May, Marchese, Pierce, and Aaronson.
Finlay, B. B. *See* Garcia-del Portillo and Finlay.
Firmbach-Kraft, I., and Stick, R. Analysis of nuclear lamin isoprenylation in *Xenopus* oocytes: Isoprenylation of lamin B3 precedes its uptake into the nucleus. 17.
FitzGerald, D. J., Fryling, C. M., Zdanovsky, A., Saelinger, C. B., Kounnas, M., Winkles, J. A., Strickland, D., and Leppla, S. *Pseudomonas* exotoxin–mediated selection yields cells with altered expression of low-density lipoprotein receptor–related protein. 1533.
Forbes, D. J. *See* Meier, Miller, and Forbes.
Fowler, V. M. *See* Gregorio and Fowler.
Franch, H. A., Shay, J. W., Alpern, R. J., and Preisig, P. A. Involvement of pRB family in TGFβ-dependent epithelial cell hypertrophy. 245.
Franco, R. *See* Otsuka, Franco, Yang, Shim, Tang, Zhang, Boontrakulpoontawee, Jeyaprakash, Hedgecock, Wheaton, and Sobery.
Franzini-Armstrong, C. *See* Sun, Protasi, Takahashi, Takeshima, Ferguson, and Franzini-Armstrong.

Frasch, M. *See* Küssel and Frasch.
Frey, M. R. *See* Matera, Frey, Margelot, and Wolin.
Friedrich, V. L., Jr. *See* Fannon, Sherman, Ilyina-Gragerova, Brophy, Friedrich, and Colman.
Fry, A. M. *See* Golsteyn, Mundt, Fry, and Nigg.
Fryling, C. M. *See* FitzGerald, Fryling, Zdanovsky, Saelinger, Kounnas, Winkles, Strickland, and Leppla.
Fuchs, E. *See* Lloyd, Yu, Cheng, Turksen, Degenstein, Hutton, and Fuchs.
Fuller, S. D. *See* Chrétien, Fuller, and Karsenti.
Fumagalli, G. *See* Lorenzon, Zacchetti, Codazzi, Fumagalli, Meldolesi, and Grohovaz.

G

Gadella, T. W. J., Jr., and Jovin, T. M. Oligomerization of epidermal growth factor receptors on A431 cells studied by time-resolved fluorescence imaging microscopy. A stereochemical model for tyrosine kinase receptor activation. 1543.
Gaertig, J., Cruz, M. A., Bowen, J., Gu, L., Pennock, D. G., and Gorovsky, M. A. Acetylation of lysine 40 in α-tubulin is not essential in *Tetrahymena thermophila*. 1301.
Gahmberg, C. G. *See* Li, Xie, Kantor, Koistinen, Altieri, Nortamo, and Gahmberg.
Galli, T. *See* Chilcote, Galli, Mundigl, Edelmann, McPherson, Takei, and De Camilli.
Garcia, E. P., McPherson, P. S., Chilcote, T. J., Takei, K., and De Camilli, P. rbSec1A and B colocalize with syntaxin 1 and SNAP-25 throughout the axon, but are not in a stable complex with syntaxin. 105.
Garcia-del Portillo, F., and Finlay, B. B. Targeting of *Salmonella typhimurium* to vesicles containing lysosomal membrane glycoproteins bypasses compartments with mannose 6-phosphate receptors. 81.
Gasser, S. M. *See* Cockell, Palladino, Laroche, Kyrion, Liu, Lustig, and Gasser.
Gatti, M. *See* Williams, Riedy, Williams, Gatti, and Goldberg.
Geiger, B. *See* Lampugnani, Corada, Caveda, Breviario, Ayalon, Geiger, and Dejana.
Geng, Y., and Lotz, M. Increased intracellular Ca^{2+} selectively suppresses IL-1–induced NO production by reducing iNOS mRNA stability. 1651.
Gerace, L. *See* Paschal and Gerace.
Gerisch, G. *See* Kreitmeier, Gerisch, Heizer, and Müller-Taubenberger.
Gerretsen, M. *See* Brakenhoff, Gerretsen, Knippels, van Dijk, van Essen, Weghuis, Sinke, Snow, and van Dongen.
Gettner, S. N., Kenyon, C., and Reichardt, L. F. Characterization of βpat-3 heterodimers, a family of essential integrin receptors in *C. elegans*. 1127.
Giancotti, F. G. *See* Spinardi, Einheber, Cullen, Milner, and Giancotti.
Giannetti, A. *See* Zambruno, Marchisio, Marconi, Vaschieri, Melchiori, Giannetti, and De Luca.
Giddings, T. H., Jr. *See* Winey, Mamay, O'Toole, Mastronarde, Giddings, McDonald, and McIntosh.
Godfrey, E. W. *See* Cohen, Jacobson, Godfrey, Campbell, and Carbonetto.
Godyna, S., Liau, G., Popa, I., Stefansson, S., and Argraves, W. S. Identification of the low density lipoprotein receptor–related protein (LRP) as an endocytic receptor for thrombospondin-1. 1403.
Goheen, M. *See* Pavalko, Walker, Graham, Goheen, Doerschuk, and Kansas.
Goldberg, M. L. *See* Williams, Riedy, Williams, Gatti, and Goldberg.
Goldstein, B. Cell contacts orient some cell division axes in the *Caenorhabditis elegans* embryo. 1071.
Golsteyn, R. M., Mundt, K. E., Fry, A. M., and Nigg, E. A. Cell cycle regulation of the activity and subcellular localization of PLK1, a human protein kinase implicated in mitotic spindle function. 1617.
Gomer, R. H. *See* Yuen, Jain, Bishop, Lindsey, Deery, Van Haastert, and Gomer.
Gonzalez Agosti, C. *See* Henry, Gonzalez Agosti, and Solomon.
Goodman, J. M. *See* Marshall, Krimkevich, Lark, Dyer, Veenhuis, and Goodman.
Gorbsky, G. J. *See* Campbell and Gorbsky.
Gordon, J. I. *See* Hermiston and Gordon.
Gorodinsky, A., and Harris, D. A. Glycolipid-anchored proteins in neuroblastoma cells form detergent-resistant complexes without caveolin. 619.
Gorovsky, M. A. *See* Gaertig, Cruz, Bowen, Gu, Pennock, and Gorovsky.
Gorsch, L. C., Dockendorff, T. C., and Cole, C. N. A conditional allele of the novel repeat-containing yeast nucleoporin *RAT7 / NUP159* causes both rapid cessation of mRNA export and reversible clustering of nuclear pore complexes. 939.
Goto, K., and Johnson, C. Is the cell division cycle gated by a circadian clock? The case of *Chlamydomonas reinhardtii*. 1061.
Gounon, P. *See* Adam, Arpin, Prévost, Gounon, and Sansonetti.
Graham, L. *See* Pavalko, Walker, Graham, Goheen, Doerschuk, and Kansas.
Gratzer, S., Lithgow, T., Bauer, R. E., Lamping, E., Paltauf, F., Kohlwein, S. D., Haucke, V., Junne, T., Schatz, G., and Horst, M. Mas37p, a novel receptor subunit for protein import into mitochondria. 25.
Gregorio, C. C., and Fowler, V. M. Mechanisms of thin filament assembly in embryonic chick cardiac myocytes: Tropomodulin requires tropomyosin for assembly. 683.
Grieshammer, U. *See* Xiao, Grieshammer, and Rosenthal.
Grohovaz, F. *See* Lorenzon, Zacchetti, Codazzi, Fumagalli, Meldolesi, and Grohovaz.
Gu, L. *See* Gaertig, Cruz, Bowen, Gu, Pennock, and Gorovsky.
Guinebault, C., Payrastre, B., Racaud-Sultan, C., Mazarguil, H., Breton, M., Mauco, G., Plantavid, M., and Chap, H. Integrin-dependent translocation of phosphoinositide 3-kinase to the cytoskeleton of thrombin-activated platelets involves specific interactions of p85α with actin filaments and focal adhesion kinase. 831.

H

Hagan, I., and Yanagida, M. The product of the spindle formation gene *sad1*$^+$ associates with the fission yeast spindle pole body and is essential for viability. 1033.
Hamburger, D., Egerton, M., and Riezman, H. Yeast Gaalp is required for attachment of a completed GPI anchor onto proteins. 629.
Haney, P. M., Levy, M. A., Strube, M. S., and Mueckler, M. Insulin-sensitive targeting of the GLUT4 glucose transporter in L6 myoblasts is conferred by its COOH-terminal cytoplasmic tail. 641.
Hannocks, M.-J. *See* Einheber, Hannocks, Metz, Rifkin, and Salzer.
Harris, D. A. *See* Gorodinsky and Harris.
Harris, S. *See* Schlenstedt, Harris, Risse, Lill, and Silver.
Haucke, V. *See* Gratzer, Lithgow, Bauer, Lamping, Paltauf, Kohlwein, Haucke, Junne, Schatz, and Horst.
Haynes, R. *See* Nicchitta, Murphy, Haynes, and Shelness.
Hedgecock, E. *See* Otsuka, Franco, Yang, Shim, Tang, Zhang, Boontrakulpoontawee, Jeyaprakash, Hedgecock, Wheaton, and Sobery.
Heizer, C. *See* Kreitmeier, Gerisch, Heizer, and Müller-Taubenberger.
Hellio, R. *See* Hémar, Subtil, Lieb, Morelon, Hellio, and Dautry-Varsat.
Hémar, A., Subtil, A., Lieb, M., Morelon, E., Hellio, R., and Dautry-Varsat, A. Endocytosis of interleukin 2 receptors in human T lymphocytes: Distinct intracellular localization and fate of the receptor α, β, γ chains. 55.
Hemmings, B. A. *See* Turowski, Fernandez, Favre, Lamb, and Hemmings.
Hennecke, S. *See* Letourneur, Hennecke, Démollière, and Cosson.
Henry, M. D., Gonzalez Agosti, C., and Solomon, F. Molecular dissection of radixin: Distinct and interdependent functions of the amino- and carboxy-terminal domains. 1007.
Hermiston, M. L., and Gordon, J. I. In vivo analysis of cadherin function in the mouse intestinal epithelium: Essential roles in adhesion, maintenance of differentiation, and regulation of programmed cell death. 489.
Herskowitz, I. *See* Chant, Mischke, Mitchell, Herskowitz, and Pringle.
Herzog, M. *See* Small, Herzog, and Anderson.
Hilkens, J. *See* Wesseling, van der Valk, Vos, Sonnenberg, and Hilkens.
Hirokawa, N. *See* Nakagawa, Chen, Zhang, Kanai, and Hirokawa.
— *See* Noda, Sato-Yoshitake, Kondo, Nangaku, and Hirokawa.
Hoffman, S. *See* Balsamo, Ernst, Zanin, Hoffman, and Lilien.
Holmvall, K. *See* Kadoya, Kadoya, Durbeej, Holmvall, Sorokin, and Ekblom.

Horst, M. *See* Gratzer, Lithgow, Bauer, Lamping, Paltauf, Kohlwein, Haucke, Junne, Schatz, and Horst.
Hu, W. *See* Zhang, Hu, and Ramirez.
Huhtala, P., Humphries, M. J., McCarthy, J. B., Tremble, P. M., Werb, Z., and Damsky, C. H. Cooperative signaling by $\alpha5\beta1$ and $\alpha4\beta1$ integrins regulates metalloproteinase gene expression in fibroblasts adhering to fibronectin. 867.
Hülser, D. F. *See* Elfgang, Eckert, Lichtenberg-Fraté, Butterweck, Traub, Klein, Hülser, and Willecke.
Humphries, M. J. *See* Huhtala, Humphries, McCarthy, Tremble, Werb, and Damsky.
Hutton, E. *See* Lloyd, Yu, Cheng, Turksen, Degenstein, Hutton, and Fuchs.

I

Ifrim, I. *See* Kruth, Skarlatos, Lilly, Chang, and Ifrim.
Ilyina-Gragerova, G. *See* Fannon, Sherman, Ilyina-Gragerova, Brophy, Friedrich, and Colman.
Iwamoto, M. *See* Takebayashi, Iwamoto, Jikko, Matsumura, Enomoto-Iwamoto, Myoukai, Koyama, Yamaai, Matsumoto, Nakamura, Kurisu, and Noji.
Iwamoto, R. *See* Nakamura, Iwamoto, and Mekada.

J

Jacobs, R. *See* Acharya, McCaffery, Jacobs, and Malhotra.
Jacobson, C. *See* Cohen, Jacobson, Godfrey, Campbell, and Carbonetto.
Jain, R. *See* Yuen, Jain, Bishop, Lindsey, Deery, Van Haastert, and Gomer.
Jardine, K. *See* Slack, Skerjanc, Lach, Craig, Jardine, and McBurney.
Jeong, M. C. *See* Marrs, Andersson-Fisone, Jeong, Cohen-Gould, Zurzolo, Nabi, Rodriguez-Boulan, and Nelson.
Jeyaprakash, A. *See* Otsuka, Franco, Yang, Shim, Tang, Zhang, Boontrakulpoontawee, Jeyaprakash, Hedgecock, Wheaton, and Sobery.
Jikko, A. *See* Takebayashi, Iwamoto, Jikko, Matsumura, Enomoto-Iwamoto, Myoukai, Koyama, Yamaai, Matsumoto, Nakamura, Kurisu, and Noji.
Johansen, J. *See* Briggs, Silvers, Johansen, and Johansen.
Johansen, K. M. *See* Briggs, Silvers, Johansen, and Johansen.
Johnson, C. *See* Goto and Johnson.
Jones, N. L. *See* Marsh, Leopold, Jones, and Maxfield.
Jovin, T. M. *See* Gadella and Jovin.
Junne, T. *See* Gratzer, Lithgow, Bauer, Lamping, Paltauf, Kohlwein, Haucke, Junne, Schatz, and Horst.

K

Kadoya, K. *See* Kadoya, Kadoya, Durbeej, Holmvall, Sorokin, and Ekblom.
Kadoya, Y., Kadoya, K., Durbeej, M., Holmvall, K., Sorokin, L., and Ekblom, P. Antibodies against domain E3 of laminin-1 and integrin $\alpha6$ subunit perturb branching epithelial morphogenesis of submandibular gland, but by different modes. 521.
Kanai, Y. *See* Nakagawa, Chen, Zhang, Kanai, and Hirokawa.
Kandror, K. V., Stephens, J. M., and Pilch, P. F. Expression and compartmentalization of caveolin in adipose cells: Coordinate regulation with and structural segregation from GLUT4. 999.
Kansas, G. S. *See* Pavalko, Walker, Graham, Goheen, Doerschuk, and Kansas.
Kantor, C. *See* Li, Xie, Kantor, Koistinen, Altieri, Nortamo, and Gahmberg.
Kaplan, J. *See* Ward, Perou, Lloyd, and Kaplan.
Karsenti, E. *See* Chrétien, Fuller, and Karsenti.
Kato, T. *See* Kuriyama, Kofron, Essner, Kato, Dragas-Granoic, Omoto, and Khodjakov.
Kaupp, O. *See* Aeschlimann, Kaupp, and Paulsson.
Kearsey, S. E. *See* Todorov, Attaran, and Kearsey.
Kelly, R., Alonso, S., Tajbakhsh, S., Cossu, G., and Buckingham, M. Myosin light chain 3F regulatory sequences confer regionalized cardiac and skeletal muscle expression in transgenic mice. 383.
Kenyon, C. *See* Gettner, Kenyon, and Reichardt.
Khan, M. *See* Cheng, Khan, and Mudge.
Khodjakov, A. *See* Kuriyama, Kofron, Essner, Kato, Dragas-Granoic, Omoto, and Khodjakov.
Killick, R., Legan, P. K., Malenczak, C., and Richardson, G. P. Molecular cloning of chick β-tectorin, an extracellular matrix molecule of the inner ear. 535.
King, S. M. *See* Wilkerson, King, Koutoulis, Pazour, and Witman.
Kiss, I. *See* Török, Strand, Schmitt, Tick, Török, Kiss, and Mechler.
Klein, R. A. *See* Elfgang, Eckert, Lichtenberg-Fraté, Butterweck, Traub, Klein, Hülser, and Willecke.
Klein, S. *See* Bikfalvi, Klein, Pintucci, Quarto, Mignatti, and Rifkin.
Knippels, E. M. C. *See* Brakenhoff, Gerretsen, Knippels, van Dijk, van Essen, Weghuis, Sinke, Snow, and van Dongen.
Kofron, M. *See* Kuriyama, Kofron, Essner, Kato, Dragas-Granoic, Omoto, and Khodjakov.
Kohlwein, S. D. *See* Gratzer, Lithgow, Bauer, Lamping, Paltauf, Kohlwein, Haucke, Junne, Schatz, and Horst.
Koistinen, V. *See* Li, Xie, Kantor, Koistinen, Altieri, Nortamo, and Gahmberg.
Kondo, S. *See* Noda, Sato-Yoshitake, Kondo, Nangaku, and Hirokawa.
Koo, E. H. *See* Yamazaki, Selkoe, and Koo.
Kounnas, M. *See* FitzGerald, Fryling, Zdanovsky, Saelinger, Kounnas, Winkles, Strickland, and Leppla.
Koutoulis, A. *See* Wilkerson, King, Koutoulis, Pazour, and Witman.
Koyama, E. *See* Takebayashi, Iwamoto, Jikko, Matsumura, Enomoto-Iwamoto, Myoukai, Koyama, Yamaai, Matsumoto, Nakamura, Kurisu, and Noji.
Kreitmeier, M., Gerisch, G., Heizer, C., and Müller-Taubenberger, A. A talin homologue of *Dictyostelium* rapidly assembles at the leading edge of cells in response to chemoattractant. 179.
Krimkevich, Y. I. *See* Marshall, Krimkevich, Lark, Dyer, Veenhuis, and Goodman.
Kruth, H. S., Skarlatos, S. I., Lilly, K., Chang, J., and Ifrim, I. Sequestration of acetylated LDL and cholesterol crystals by human monocyte-derived macrophages. 133.
Kurisu, K. *See* Takebayashi, Iwamoto, Jikko, Matsumura, Enomoto-Iwamoto, Myoukai, Koyama, Yamaai, Matsumoto, Nakamura, Kurisu, and Noji.
Kuriyama, R., Kofron, M., Essner, R., Kato, T., Dragas-Granoic, S., Omoto, C. K., and Khodjakov, A. Characterization of a minus end–directed kinesin-like motor protein from cultured mammalian cells. 1049.
Küssel, P., and Frasch, M. Pendulin, a *Drosophila* protein with cell cycle-dependent nuclear localization, is required for normal cell proliferation. 1491.
Kusumi, A. *See* Sako and Kusumi.
Kwiatkowska, K. *See* Sun, Kwiatkowska, Wooten, and Yin.
Kyrion, G. *See* Cockell, Palladino, Laroche, Kyrion, Liu, Lustig, and Gasser.

L

Lach, B. *See* Slack, Skerjanc, Lach, Craig, Jardine, and McBurney.
Lamaze, C., and Schmid, S. L. Recruitment of epidermal growth factor receptors into coated pits requires their activated tyrosine kinase. 47.
Lamb, N. J. C. *See* Turowski, Fernandez, Favre, Lamb, and Hemmings.
Lamping, E. *See* Gratzer, Lithgow, Bauer, Lamping, Paltauf, Kohlwein, Haucke, Junne, Schatz, and Horst.
Lampugnani, M. G., Corada, M., Caveda, L., Breviario, F., Ayalon, O., Geiger, B., and Dejana, E. The molecular organization of endothelial cell to cell junctions: Differential association of plakoglobin, β-catenin, and α-catenin with vascular endothelial cadherin (VE-cadherin). 203.
Lark, R. H. *See* Marshall, Krimkevich, Lark, Dyer, Veenhuis, and Goodman.
Laroche, T. *See* Cockell, Palladino, Laroche, Kyrion, Liu, Lustig, and Gasser.

LaRochelle, W. J., Dirsch, O. R., Finch, P. W., Cheon, H.-G., May, M., Marchese, C., Pierce, J. H., and Aaronson, S. A. Specific receptor detection by a functional keratinocyte growth factor–immunoglobulin chimera. 357.
Laszlo, L. *See* Taraboulos, Scott, Semenov, Avraham, Laszlo, and Prusiner.
Lazarow, P. B. *See* Zhang and Lazarow.
Lazzarini, R. A. *See* Tu, Elder, Lazzarini, Nelson, Trojanowski, and Lee.
Lee, K. *See* Schumacher, Lee, Edelhoff, and Braun.
Lee, V. M.-Y. *See* Tu, Elder, Lazzarini, Nelson, Trojanowski, and Lee.
Legan, P. K. *See* Killick, Legan, Malenczak, and Richardson.
Leopold, P. L. *See* Marsh, Leopold, Jones, and Maxfield.
Leppla, S. *See* FitzGerald, Fryling, Zdanovsky, Saelinger, Kounnas, Winkles, Strickland, and Leppla.
Letourneur, F., Hennecke, S., Démollière, C., and Cosson, P. Steric masking of a dilysine endoplasmic reticulum retention motif during assembly of the human high affinity receptor for immunoglobulin E. 971.
Levy, M. A. *See* Haney, Levy, Strube, and Mueckler.
Lew, D. J., and Reed, S. I. A cell cycle checkpoint monitors cell morphogenesis in budding yeast. 739.
Lewis Carl, S., Felix, K., Caswell, A. H., Brandt, N. R., Ball, W. J., Jr., Vaghy, P. L., Meissner, G., and Ferguson, D. G. Immunolocalization of sarcolemmal dihydropyridine receptor and sarcoplasmic reticular triadin and ryanodine receptor in rabbit ventricle and atrium. 673.
Li, R., Xie, J., Kantor, C., Koistinen, V., Altieri, D. C., Nortamo, P., and Gahmberg, C. G. A peptide derived from the intercellular adhesion molecule-2 regulates the avidity of the leukocyte integrins CD11b/CD18 and CD11c/CD18. 1143.
Liau, G. *See* Godyna, Liau, Popa, Stefansson, and Argraves.
Lichtenberg-Fraté, H. *See* Elfgang, Eckert, Lichtenberg-Fraté, Butterweck, Traub, Klein, Hülser, and Willecke.
Lieb, M. *See* Hémar, Subtil, Lieb, Morelon, Hellio, and Dautry-Varsat.
Lilien, J. *See* Balsamo, Ernst, Zanin, Hoffman, and Lilien.
Lill, R. *See* Schlenstedt, Harris, Risse, Lill, and Silver.
Lilly, K. *See* Kruth, Skarlatos, Lilly, Chang, and Ifrim.
Lilly, P. J., and Devreotes, P. N. Chemoattractant and GTPγS-mediated stimulation of adenylyl cyclase in *Dictyostelium* requires translocation of CRAC to membranes. 1659.
Lin, C. Q., Dempsey, P. J., Coffey, R. J., and Bissell, M. J. Extracellular matrix regulates whey acidic protein gene expression by suppression of TGF-α in mouse mammary epithelial cells: Studies in culture and in transgenic mice. 1115.
Lin, J. J.-C. *See* Warren, Lin, McDermott, and Lin.
Lin, J. L.-C. *See* Warren, Lin, McDermott, and Lin.
Lindau, M. *See* Lollike, Borregaard, and Lindau.
Lindberg, I. *See* Zhu and Lindberg.
Lindsey, D. F. *See* Yuen, Jain, Bishop, Lindsey, Deery, Van Haastert, and Gomer.
Lippincott-Schwartz, J., Cole, N. B., Marotta, A., Conrad, P. A., and Bloom, G. S. Kinesin is the motor for microtubule-mediated Golgi-to-ER membrane traffic: Correction. 893.
Lithgow, T. *See* Gratzer, Lithgow, Bauer, Lamping, Paltauf, Kohlwein, Haucke, Junne, Schatz, and Horst.
Liu, C. *See* Cockell, Palladino, Laroche, Kyrion, Liu, Lustig, and Gasser.
Lloyd, C., Yu, Q.-C., Cheng, J., Turksen, K., Degenstein, L., Hutton, E., and Fuchs, E. The basal keratin network of stratified squamous epithelia: Defining K15 function in the absence of K14. 1329.
Lloyd, M. *See* Ward, Perou, Lloyd, and Kaplan.
Lollike, K., Borregaard, N., and Lindau, M. The exocytotic fusion pore of small granules has a conductance similar to an ion channel. 99.
Lorenzon, P., Zacchetti, D., Codazzi, F., Fumagalli, G., Meldolesi, J., and Grohovaz, F. Ca^{2+} waves in PC12 neurites: A bidirectional, receptor-oriented form of Ca^{2+} signaling. 797.
Lotz, M. *See* Geng and Lotz.
Lu, P. J., Lu, Q. L., Rughetti, A., and Taylor-Papadimitriou, J. *bcl-2* overexpression inhibits cell death and promotes the morphogenesis, but not tumorigenesis of human mammary epithelial cells. 1363.
Lu, Q. L. *See* Lu, Lu, Rughetti, and Taylor-Papadimitriou.
Lustig, A. J. *See* Cockell, Palladino, Laroche, Kyrion, Liu, Lustig, and Gasser.

M

Malenczak, C. *See* Killick, Legan, Malenczak, and Richardson.
Malhotra, V. *See* Acharya, McCaffery, Jacobs, and Malhotra.
Mamay, C. L. *See* Winey, Mamay, O'Toole, Mastronarde, Giddings, McDonald, and McIntosh.
Marchese, C. *See* LaRochelle, Dirsch, Finch, Cheon, May, Marchese, Pierce, and Aaronson.
Marchisio, P. C. *See* Zambruno, Marchisio, Marconi, Vaschieri, Melchiori, Giannetti, and De Luca.
Marconi, A. *See* Zambruno, Marchisio, Marconi, Vaschieri, Melchiori, Giannetti, and De Luca.
Margelot, K. *See* Matera, Frey, Margelot, and Wolin.
Marrs, J. A., Andersson-Fisone, C., Jeong, M. C., Cohen-Gould, L., Zurzolo, C., Nabi, I. R., Rodriguez-Boulan, E., and Nelson, W. J. Plasticity in epithelial cell phenotype: Modulation by expression of different cadherin cell adhesion molecules. 507.
Marsh, E. W., Leopold, P. L., Jones, N. L., and Maxfield, F. R. Oligomerized transferrin receptors are selectively retained by a lumenal sorting signal in a long-lived endocytic recycling compartment. 1509.
Marshall, P. A., Krimkevich, Y. I., Lark, R. H., Dyer, J. M., Veenhuis, M., and Goodman, J. M. Pmp27 promotes peroxisomal proliferation. 345.
Mastick, C. C., Brady, M. J., and Saltiel, A. R. Insulin stimulates the tyrosine phosphorylation of caveolin. 1523.
Mastronarde, D. N. *See* Winey, Mamay, O'Toole, Mastronarde, Giddings, McDonald, and McIntosh.
Matera, A. G., Frey, M. R., Margelot, K., and Wolin, S. L. A perinucleolar compartment contains several RNA polymerase III transcripts as well as the polypyrimidine tract-binding protein, hnRNP I. 1181.
Matikainen, S. *See* Zheng, Saksela, Matikainen, and Vaheri.
Matsumoto, K. *See* Takebayashi, Iwamoto, Jikko, Matsumura, Enomoto-Iwamoto, Myoukai, Koyama, Yamaai, Matsumoto, Nakamura, Kurisu, and Noji.
Matsumura, T. *See* Takebayashi, Iwamoto, Jikko, Matsumura, Enomoto-Iwamoto, Myoukai, Koyama, Yamaai, Matsumoto, Nakamura, Kurisu, and Noji.
Mauco, G. *See* Guinebault, Payrastre, Racaud-Sultan, Mazarguil, Breton, Mauco, Plantavid, and Chap.
Maxfield, F. R. *See* Marsh, Leopold, Jones, and Maxfield.
May, M. *See* LaRochelle, Dirsch, Finch, Cheon, May, Marchese, Pierce, and Aaronson.
Mazarguil, H. *See* Guinebault, Payrastre, Racaud-Sultan, Mazarguil, Breton, Mauco, Plantavid, and Chap.
McBurney, M. W. *See* Slack, Skerjanc, Lach, Craig, Jardine, and McBurney.
McCaffery, J. M. *See* Acharya, McCaffery, Jacobs, and Malhotra.
McCarthy, J. B. *See* Huhtala, Humphries, McCarthy, Tremble, Werb, and Damsky.
McDermott, J. P. *See* Warren, Lin, McDermott, and Lin.
McDonald, K. L. *See* Winey, Mamay, O'Toole, Mastronarde, Giddings, McDonald, and McIntosh.
McIntosh, J. Richard. *See* Winey, Mamay, O'Toole, Mastronarde, Giddings, McDonald, and McIntosh.
McPherson, P. S. *See* Chilcote, Galli, Mundigl, Edelmann, McPherson, Takei, and De Camilli.
— *See* Garcia, McPherson, Chilcote, Takei, and De Camilli.
Mechler, B. M. *See* Török, Strand, Schmitt, Tick, Török, Kiss, and Mechler.
Medina, C. *See* Berthiaume, Medina, and Swanson.
Mehlin, H., Daneholt, B., and Skoglund, U. Structural interaction between the nuclear pore complex and a specific translocating RNP particle. 1205.
Meier, E., Miller, B. R., and Forbes, D. J. Nuclear pore complex assembly studied with a biochemical assay for annulate lamellae formation. 1459.
Meissner, G. *See* Lewis Carl, Felix, Caswell, Brandt, Ball, Vaghy, Meissner, and Ferguson.
Mekada, E. *See* Nakamura, Iwamoto, and Mekada.
Melchiori, A. *See* Zambruno, Marchisio, Marconi, Vaschieri, Melchiori, Giannetti, and De Luca.
Meldolesi, J. *See* Lorenzon, Zacchetti, Codazzi, Fumagalli, Meldolesi, and Grohovaz.

Mermall, V., and Miller, K. G. The 95F unconventional myosin is required for proper organization of the *Drosophila* syncytial blastoderm. 1575.
Metz, C. N. *See* Einheber, Hannocks, Metz, Rifkin, and Salzer.
Michalopoulos, G. K. *See* Zarnegar and Michalopoulos.
Miesenböck, G., and Rothman, J. E. The capacity to retrieve escaped ER proteins extends to the *trans*-most cisterna of the Golgi stack. 309.
Mignatti, P. *See* Bikfalvi, Klein, Pintucci, Quarto, Mignatti, and Rifkin.
Millan, J. A. *See* Wang, Millan, Cox, Der, Rapp, Beck, Zha, and Reed.
Miller, B. R. *See* Meier, Miller, and Forbes.
Miller, F. J. *See* Sluder, Thompson, Rieder, and Miller.
Miller, J. *See* Arneson and Miller.
Miller, K. G. *See* Mermall and Miller.
Milner, T. A. *See* Spinardi, Einheber, Cullen, Milner, and Giancotti.
Mischke, M. *See* Chant, Mischke, Mitchell, Herskowitz, and Pringle.
Misteli, T. *See* Rabouille, Misteli, Watson, and Warren.
Mitchell, E. *See* Chant, Mischke, Mitchell, Herskowitz, and Pringle.
Mitsiadis, T. A., Muramatsu, T., Muramatsu, H., and Thesleff, I. Midkine (MK), a Heparin-binding growth/differentiation factor, is regulated by retinoic acid and epithelial–mesenchymal interactions in the developing mouse tooth, and affects cell proliferation and morphogenesis. 267.
Morelon, E. *See* Hémar, Subtil, Lieb, Morelon, Hellio, and Dautry-Varsat.
Mudge, A. W. *See* Cheng, Khan, and Mudge.
Mueckler, M. *See* Haney, Levy, Strube, and Mueckler.
Mueller, B. M. *See* Stahl and Mueller.
Müller-Taubenberger, A. *See* Kreitmeier, Gerisch, Heizer, and Müller-Taubenberger.
Mundigl, O. *See* Chilcote, Galli, Mundigl, Edelmann, McPherson, Takei, and De Camilli.
Mundt, K. E. *See* Golsteyn, Mundt, Fry, and Nigg.
Muramatsu, H. *See* Mitsiadis, Muramatsu, Muramatsu, and Thesleff.
Muramatsu, T. *See* Mitsiadis, Muramatsu, Muramatsu, and Thesleff.
Murphy, E. C., III *See* Nicchitta, Murphy, Haynes, and Shelness.
Murphy-Erdosh, C., Yoshida, C. K., Paradies, N., and Reichardt, L. F. The cadherin-binding specificities of B-cadherin and LCAM. 1379.
Mustonen, T., and Alitalo, K. Endothelial receptor tyrosine kinases involved in angiogenesis. 895.
Myoukai, F. *See* Takebayashi, Iwamoto, Jikko, Matsumura, Enomoto-Iwamoto, Myoukai, Koyama, Yamaai, Matsumoto, Nakamura, Kurisu, and Noji.

N

Nabi, I. R. *See* Benlimame, Simard, and Nabi.
— *See* Marrs, Andersson-Fisone, Jeong, Cohen-Gould, Zurzolo, Nabi, Rodriguez-Boulan, and Nelson.
Naim, H. Y., Dodds, D. T., Brewer, C. B., and Roth, M. G. Apical and basolateral coated pits of MDCK cells differ in their rates of maturation into coated vesicles, but not in the ability to distinguish between mutant hemagglutinin proteins with different internalization signals. 1241.
Nakagawa, T., Chen, J., Zhang, Z., Kanai, Y., and Hirokawa, N. Two distinct functions of the carboxyl-terminal tail domain of NF-M upon neurofilament assembly: Cross-bridge formation and longitudinal elongation of filaments. 411.
Nakamura, K., Iwamoto, R., and Mekada, E. Membrane-anchored heparin-binding EGF-like growth factor (HB-EGF) and diphtheria toxin receptor–associated protein (DRAP27)/CD9 form a complex with integrin $\alpha 3\beta 1$ at cell–cell contact sites. 1691.
Nakamura, T. *See* Takebayashi, Iwamoto, Jikko, Matsumura, Enomoto-Iwamoto, Myoukai, Koyama, Yamaai, Matsumoto, Nakamura, Kurisu, and Noji.
Nangaku, M. *See* Noda, Sato-Yoshitake, Kondo, Nangaku, and Hirokawa.
Nelson, D. *See* Tu, Elder, Lazzarini, Nelson, Trojanowski, and Lee.
Nelson, W. J. *See* Marrs, Andersson-Fisone, Jeong, Cohen-Gould, Zurzolo, Nabi, Rodriguez-Boulan, and Nelson.
Neugebauer, K. M., Stolk, J. A., and Roth, M. B. A conserved epitope on a subset of SR proteins defines a larger family of pre-mRNA splicing factors. 899.
Newport, J. *See* Yan and Newport.
Nicchitta, C. V., Murphy, E. C., III, Haynes, R., and Shelness, G. S. Stage- and ribosome-specific alterations in nascent chain–Sec61p interactions accompany translocation across the ER membrane. 957.
Nicklas, R. B. *See* Zhang and Nicklas.
Nigg, E. A. *See* Golsteyn, Mundt, Fry, and Nigg.
Noda, Y., Sato-Yoshitake, R., Kondo, S., Nangaku, M., and Hirokawa, N. KIF2 is a new microtubule-based anterograde motor that transports membranous organelles distinct from those carried by kinesin heavy chain or KIF3A/B. 157.
Noji, S. *See* Takebayashi, Iwamoto, Jikko, Matsumura, Enomoto-Iwamoto, Myoukai, Koyama, Yamaai, Matsumoto, Nakamura, Kurisu, and Noji.
Nortamo, P. *See* Li, Xie, Kantor, Koistinen, Altieri, Nortamo, and Gahmberg.
Nothwehr, S. F., Conibear, E., and Stevens, T. H. Golgi and vacuolar membrane proteins reach the vacuole in *vps1* mutant yeast cells via the plasma membrane. 35.

O

Omoto, C. K. *See* Kuriyama, Kofron, Essner, Kato, Dragas-Granoic, Omoto, and Khodjakov.
Ora, A. *See* Rodríguez, Rioult, Ora, and Andrews.
O'Toole, E. T. *See* Winey, Mamay, O'Toole, Mastronarde, Giddings, McDonald, and McIntosh.
Otsuka, A. J., Franco, R., Yang, B., Shim, K.-H., Tang, L. Z., Zhang, Y. Y., Boontrakulpoontawee, P., Jeyaprakash, A., Hedgecock, E., Wheaton, V. I., and Sobery, A. An ankyrin-related gene (*unc-44*) is necessary for proper axonal guidance in *Caenorhabditis elegans*. 1081.

P

Palladino, F. *See* Cockell, Palladino, Laroche, Kyrion, Liu, Lustig, and Gasser.
Paltauf, F. *See* Gratzer, Lithgow, Bauer, Lamping, Paltauf, Kohlwein, Haucke, Junne, Schatz, and Horst.
Paradies, N. *See* Murphy-Erdosh, Yoshida, Paradies, and Reichardt.
Paschal, B. M., and Gerace, L. Identification of NTF2, a cytosolic factor for nuclear import that interacts with nuclear pore complex protein p62. 925.
Paulsson, M. *See* Aeschlimann, Kaupp, and Paulsson.
Pavalko, F. M., Walker, D. M., Graham, L., Goheen, M., Doerschuk, C. M., and Kansas, G. S. The cytoplasmic domain of L-selectin interacts with cytoskeletal proteins via α-actinin: Receptor positioning in microvilli does not require interaction with α-actinin. 1155.
Payrastre, B. *See* Guinebault, Payrastre, Racaud-Sultan, Mazarguil, Breton, Mauco, Plantavid, and Chap.
Pazour, G. J. *See* Wilkerson, King, Koutoulis, Pazour, and Witman.
Pennock, D. G. *See* Gaertig, Cruz, Bowen, Gu, Pennock, and Gorovsky.
Perou, C. M. *See* Ward, Perou, Lloyd, and Kaplan.
Pierce, J. H. *See* LaRochelle, Dirsch, Finch, Cheon, May, Marchese, Pierce, and Aaronson.
Pilch, P. F. *See* Kandror, Stephens, and Pilch.
Pintucci, G. *See* Bikfalvi, Klein, Pintucci, Quarto, Mignatti, and Rifkin.
Plantavid, M. *See* Guinebault, Payrastre, Racaud-Sultan, Mazarguil, Breton, Mauco, Plantavid, and Chap.
Popa, I. *See* Godyna, Liau, Popa, Stefansson, and Argraves.
Preisig, P. A. *See* Franch, Shay, Alpern, and Preisig.
Prévost, M.-C. *See* Adam, Arpin, Prévost, Gounon, and Sansonetti.
Pringle, J. R. *See* Chant, Mischke, Mitchell, Herskowitz, and Pringle.
— *See* Chant and Pringle.
Protasi, F. *See* Sun, Protasi, Takahashi, Takeshima, Ferguson, and Franzini-Armstrong.
Prusiner, S. B. *See* Taraboulos, Scott, Semenov, Avraham, Laszlo, and Prusiner.

Q

Quarto, N. *See* Bikfalvi, Klein, Pintucci, Quarto, Mignatti, and Rifkin.

R

Rabouille, C., Misteli, T., Watson, R., and Warren, G. Reassembly of Golgi stacks from mitotic Golgi fragments in a cell-free system. 605.

Racaud-Sultan, C. *See* Guinebault, Payrastre, Racaud-Sultan, Mazarguil, Breton, Mauco, Plantavid, and Chap.

Ramirez, F. *See* Zhang, Hu, and Ramirez.

Rapp, U. R. *See* Wang, Millan, Cox, Der, Rapp, Beck, Zha, and Reed.

Reed, J. C. *See* Wang, Millan, Cox, Der, Rapp, Beck, Zha, and Reed.

Reed, S. I. *See* Lew and Reed.

Reichardt, L. F. *See* Gettner, Kenyon, and Reichardt.

— *See* Murphy-Erdosh, Yoshida, Paradies, and Reichardt.

Reinbothe, C. *See* Reinbothe, Reinbothe, Runge, and Apel.

Reinbothe, S., Reinbothe, C., Runge, S., and Apel, K. Enzymatic product formation impairs both the chloroplast receptor–binding function as well as translocation competence of the NADPH: Protochlorophyllide oxidoreductase, a nuclear-encoded plastid precursor protein. 299.

Reinhard, J. *See* Stöffler, Ruppert, Reinhard, and Bähler.

Richardson, G. P. *See* Killick, Legan, Malenczak, and Richardson.

Rieder, C. L. *See* Sluder, Thompson, Rieder, and Miller.

Riedy, M. F. *See* Williams, Riedy, Williams, Gatti, and Goldberg.

Riezman, H. *See* Hamburger, Egerton, and Riezman.

Rifkin, D. B. *See* Bikfalvi, Klein, Pintucci, Quarto, Mignatti, and Rifkin.

— *See* Einheber, Hannocks, Metz, Rifkin, and Salzer.

Rioult, M. G. *See* Rodríguez, Rioult, Ora, and Andrews.

Risse, B. *See* Schlenstedt, Harris, Risse, Lill, and Silver.

Rodríguez, A., Rioult, M. G., Ora, A., and Andrews, N. W. A trypanosome-soluble factor induces IP_3 formation, intracellular Ca^{2+} mobilization and microfilament rearrangement in host cells. 1263.

Rodriguez-Boulan, E. *See* Marrs, Andersson-Fisone, Jeong, Cohen-Gould, Zurzolo, Nabi, Rodriguez-Boulan, and Nelson.

Rosenthal, N. *See* Xiao, Grieshammer, and Rosenthal.

Roskelley, C. *See* Streuli, Schmidhauser, Bailey, Yurchenco, Skubitz, Roskelley, and Bissell.

Rossert, J., Eberspaecher, H., and de Crombrugghe, B. Separate *cis*-acting DNA elements of the mouse pro-α1(I) collagen promoter direct expression of reporter genes to different type I collagen-producing cells in transgenic mice. 1421.

Roth, M. B. *See* Neugebauer, Stolk, and Roth.

Roth, M. G. *See* Naim, Dodds, Brewer, and Roth.

Roth, S. *See* Dawson, Roth, and Artavanis-Tsakonas.

Rothman, J. E. *See* Miesenböck and Rothman.

Rughetti, A. *See* Lu, Lu, Rughetti, and Taylor-Papadimitriou.

Ruhlen, R. L. *See* Caplow, Ruhlen, and Shanks.

Runge, S. *See* Reinbothe, Reinbothe, Runge, and Apel.

Ruppert, C. *See* Stöffler, Ruppert, Reinhard, and Bähler.

S

Saelinger, C. B. *See* FitzGerald, Fryling, Zdanovsky, Saelinger, Kounnas, Winkles, Strickland, and Leppla.

Sako, Y., and Kusumi, A. Barriers for lateral diffusion of transferrin receptor in the plasma membrane as characterized by receptor dragging by laser tweezers: Fence versus tether. 1559.

Saksela, O. *See* Zheng, Saksela, Matikainen, and Vaheri.

Saltiel, A. R. *See* Mastick, Brady, and Saltiel.

Salzer, J. L. *See* Einheber, Hannocks, Metz, Rifkin, and Salzer.

Sansonetti, P. J. *See* Adam, Arpin, Prévost, Gounon, and Sansonetti.

Sato-Yoshitake, R. *See* Noda, Sato-Yoshitake, Kondo, Nangaku, and Hirokawa.

Schatz, G. *See* Gratzer, Lithgow, Bauer, Lamping, Paltauf, Kohlwein, Haucke, Junne, Schatz, and Horst.

Scheer, U. *See* Weisenberger and Scheer.

Schlenstedt, G., Harris, S., Risse, B., Lill, R., and Silver, P. A. A yeast DnaJ homologue, Scj1p, can function in the endoplasmic reticulum with BiP/Kar2p via a conserved domain that specifies interactions with Hsp70s. 979.

Schmid, S. L. *See* Lamaze and Schmid.

Schmidhauser, C. *See* Streuli, Schmidhauser, Bailey, Yurchenco, Skubitz, Roskelley, and Bissell.

Schmitt, R. *See* Török, Strand, Schmitt, Tick, Török, Kiss, and Mechler.

Schumacher, J. M., Lee, K., Edelhoff, S., and Braun, R. E. Spnr, a murine RNA-binding protein that is localized to cytoplasmic microtubules. 1023.

Scott, M. *See* Taraboulos, Scott, Semenov, Avraham, Laszlo, and Prusiner.

Selkoe, D. J. *See* Yamazaki, Selkoe, and Koo.

Semenov, A. *See* Taraboulos, Scott, Semenov, Avraham, Laszlo, and Prusiner.

Shanks, J. *See* Caplow, Ruhlen, and Shanks.

Shay, J. W. *See* Franch, Shay, Alpern, and Preisig.

Shelness, G. S. *See* Nicchitta, Murphy, Haynes, and Shelness.

Sherman, D. L. *See* Fannon, Sherman, Ilyina-Gragerova, Brophy, Friedrich, and Colman.

Shim, K.-H. *See* Otsuka, Franco, Yang, Shim, Tang, Zhang, Boontrakulpoontawee, Jeyaprakash, Hedgecock, Wheaton, and Sobery.

Silver, P. A. *See* Schlenstedt, Harris, Risse, Lill, and Silver.

Silvers, A. J. *See* Briggs, Silvers, Johansen, and Johansen.

Simard, D. *See* Benlimame, Simard, and Nabi.

Sinke, R. J. *See* Brakenhoff, Gerretsen, Knippels, van Dijk, van Essen, Weghuis, Sinke, Snow, and van Dongen.

Siomi, H., and Dreyfuss, G. A nuclear localization domain in the hnRNP A1 protein. 551.

Skarlatos, S. I. *See* Kruth, Skarlatos, Lilly, Chang, and Ifrim.

Skerjanc, I. S. *See* Slack, Skerjanc, Lach, Craig, Jardine, and McBurney.

Skoglund, U. *See* Mehlin, Daneholt, and Skoglund.

Skubitz, A. P. N. *See* Streuli, Schmidhauser, Bailey, Yurchenco, Skubitz, Roskelley, and Bissell.

Slack, R. S., Skerjanc, I. S., Lach, B., Craig, J., Jardine, K., and McBurney, M. W. Cells differentiating into neuroectoderm undergo apoptosis in the absence of functional retinoblastoma family proteins. 779.

Sluder, G., Thompson, E. A., Rieder, C. L., and Miller, F. J. Nuclear envelope breakdown is under nuclear not cytoplasmic control in sea urchin zygotes. 1447.

Small, J. V., Herzog, M., and Anderson, K. Actin filament organization in the fish keratocyte lamellipodium. 1275.

Snow, G. B. *See* Brakenhoff, Gerretsen, Knippels, van Dijk, van Essen, Weghuis, Sinke, Snow, and van Dongen.

Sobery, A. *See* Otsuka, Franco, Yang, Shim, Tang, Zhang, Boontrakulpoontawee, Jeyaprakash, Hedgecock, Wheaton, and Sobery.

Solomon, F. *See* Henry, Gonzalez Agosti, and Solomon.

Sonnenberg, A. *See* Wesseling, van der Valk, Vos, Sonnenberg, and Hilkens.

Sorokin, L. *See* Kadoya, Kadoya, Durbeej, Holmvall, Sorokin, and Ekblom.

Spinardi, L., Einheber, S., Cullen, T., Milner, T. A., and Giancotti, F. G. A recombinant tail-less integrin β_4 subunit disrupts hemidesmosomes, but does not suppress $\alpha_6\beta_4$-mediated cell adhesion to laminins. 473.

Stack, J. H., DeWald, D. B., Takegawa, K., and Emr, S. D. Vesicle-mediated protein transport: Regulatory interactions between the Vps15 protein kinase and the Vps34 PtdIns 3-kinase essential for protein sorting to the vacuole in yeast. 321.

Stahl, A., and Mueller, B. M. The urokinase-type plasminogen activator receptor, a GPI-linked protein, is localized in caveolae. 335.

Stefansson, S. *See* Godyna, Liau, Popa, Stefansson, and Argraves.

Stephens, J. M. *See* Kandror, Stephens, and Pilch.

Stevens, T. H. *See* Nothwehr, Conibear, and Stevens.

Stick, R. *See* Firmbach-Kraft and Stick.

Stöffler, H.-E., Ruppert, C., Reinhard, J., and Bähler, M. A novel mammalian myosin I from rat with an SH3 domain localizes to Con A–inducible, F-actin–rich structures at cell–cell contacts. 819.

Stolk, J. A. *See* Neugebauer, Stolk, and Roth.

Strand, D. *See* Török, Strand, Schmitt, Tick, Török, Kiss, and Mechler.
Streuli, C. H., Schmidhauser, C., Bailey, N., Yurchenco, P., Skubitz, A. P. N., Roskelley, C., and Bissell, M. J. Laminin mediates tissue-specific gene expression in mammary epithelia. 591.
Strickland, D. *See* FitzGerald, Fryling, Zdanovsky, Saelinger, Kounnas, Winkles, Strickland, and Leppla.
Strube, M. S. *See* Haney, Levy, Strube, and Mueckler.
Subtil, A. *See* Hémar, Subtil, Lieb, Morelon, Hellio, and Dautry-Varsat.
Sun, H.-Q., Kwiatkowska, K., Wooten, D. C., and Yin, H. L. Effects of CapG overexpression on agonist-induced motility and second messenger generation. 147.
Sun, X.-H., Protasi, F., Takahashi, M., Takeshima, H., Ferguson, D. G., and Franzini-Armstrong, C. Molecular architecture of membranes involved in excitation–contraction coupling of cardiac muscle. 659.
Swanson, J. A. *See* Berthiaume, Medina, and Swanson.

T

Tajbakhsh, S. *See* Kelly, Alonso, Tajbakhsh, Cossu, and Buckingham.
Takahashi, M. *See* Sun, Protasi, Takahashi, Takeshima, Ferguson, and Franzini-Armstrong.
Takebayashi, T., Iwamoto, M., Jikko, A., Matsumura, T., Enomoto-Iwamoto, M., Myoukai, F., Koyama, E., Yamaai, T., Matsumoto, K., Nakamura, T., Kurisu, K., and Noji, S. Hepatocyte growth factor/scatter factor modulates cell motility, proliferation, and proteoglycan synthesis of chondrocytes. 1411.
Takegawa, K. *See* Stack, DeWald, Takegawa, and Emr.
Takei, K. *See* Chilcote, Galli, Mundigl, Edelmann, McPherson, Takei, and De Camilli.
— *See* Garcia, McPherson, Chilcote, Takei, and De Camilli.
Takeshima, H. *See* Sun, Protasi, Takahashi, Takeshima, Ferguson, and Franzini-Armstrong.
Tang, L. Z. *See* Otsuka, Franco, Yang, Shim, Tang, Zhang, Boontrakulpoontawee, Jeyaprakash, Hedgecock, Wheaton, and Sobery.
Taraboulos, A., Scott, M., Semenov, A., Avraham, D., Laszlo, L., and Prusiner, S. B. Cholesterol depletion and modification of COOH-terminal targeting sequence of the prion protein inhibit formation of the scrapie isoform. 121.
Taylor-Papadimitriou, J. *See* Lu, Lu, Rughetti, and Taylor-Papadimitriou.
Thesleff, I. *See* Mitsiadis, Muramatsu, Muramatsu, and Thesleff.
Thompson, E. A. *See* Sluder, Thompson, Rieder, and Miller.
Tick, G. *See* Török, Strand, Schmitt, Tick, Török, Kiss, and Mechler.
Todorov, I. T., Attaran, A., and Kearsey, S. E. BM28, a human member of the MCM2-3-5 family, is displaced from chromatin during DNA replication. 1433.
Török, I., Strand, D., Schmitt, R., Tick, G., Török, T., Kiss, I., and Mechler, B. M. The *overgrown hematopoietic organs-31* tumor suppressor gene of *Drosophila* encodes an *Importin*-like protein accumulating in the nucleus at the onset of mitosis. 1473.
Török, T. *See* Török, Strand, Schmitt, Tick, Török, Kiss, and Mechler.
Traub, O. *See* Elfgang, Eckert, Lichtenberg-Fraté, Butterweck, Traub, Klein, Hülser, and Willecke.
Tremble, P., Damsky, C. H., and Werb, Z. Components of the nuclear signaling cascade that regulate collagenase gene expression in response to integrin-derived signals. 1707.
Tremble, P. M. *See* Huhtala, Humphries, McCarthy, Tremble, Werb, and Damsky.
Trojanowski, J. Q. *See* Tu, Elder, Lazzarini, Nelson, Trojanowski, and Lee.
Tu, P.-H., Elder, G., Lazzarini, R. A., Nelson, D., Trojanowski, J. Q., and Lee, V. M.-Y. Overexpression of the human NFM subunit in transgenic mice modifies the level of endogenous NFL and the phosphorylation state of NFH subunits. 1629.
Turksen, K. *See* Lloyd, Yu, Cheng, Turksen, Degenstein, Hutton, and Fuchs.
Turowski, P., Fernandez, A., Favre, B., Lamb, N. J. C., and Hemmings, B. A. Differential methylation and altered conformation of cytoplasmic and nuclear forms of protein phosphatase 2A during cell cycle progression. 397.

V

Vaghy, P. L. *See* Lewis Carl, Felix, Caswell, Brandt, Ball, Vaghy, Meissner, and Ferguson.
Vaheri, A. *See* Zheng, Saksela, Matikainen, and Vaheri.
Valkema, R. *See* Wu, Valkema, Van Haastert, and Devreotes.
van der Valk, S. W. *See* Wesseling, van der Valk, Vos, Sonnenberg, and Hilkens.
van der Zee, S. *See* Bregman, Du, van der Zee, and Warren.
van Dijk, M. *See* Brakenhoff, Gerretsen, Knippels, van Dijk, van Essen, Weghuis, Sinke, Snow, and van Dongen.
van Dongen, G. A. M. S. *See* Brakenhoff, Gerretsen, Knippels, van Dijk, van Essen, Weghuis, Sinke, Snow, and van Dongen.
van Essen, H. *See* Brakenhoff, Gerretsen, Knippels, van Dijk, van Essen, Weghuis, Sinke, Snow, and van Dongen.
Van Haastert, P. J. M. *See* Wu, Valkema, Van Haastert, and Devreotes.
— *See* Yuen, Jain, Bishop, Lindsey, Deery, Van Haastert, and Gomer.
Vaschieri, C. *See* Zambruno, Marchisio, Marconi, Vaschieri, Melchiori, Giannetti, and De Luca.
Veenhuis, M. *See* Marshall, Krimkevich, Lark, Dyer, Veenhuis, and Goodman.
Vos, H. L. *See* Wesseling, van der Valk, Vos, Sonnenberg, and Hilkens.

W

Walker, D. M. *See* Pavalko, Walker, Graham, Goheen, Doerschuk, and Kansas.
Wang, H.-G., Millan, J. A., Cox, A. D., Der, C. J., Rapp, U. R., Beck, T., Zha, H., and Reed, J. C. R-Ras promotes apoptosis caused by growth factor deprivation via a bcl-2 suppressible mechanism. 1103.
Ward, D. M., Perou, C. M., Lloyd, M., and Kaplan, J. "Synchronized" endocytosis and intracellular sorting in alveolar macrophages: The early sorting endosome is a transient organelle. 1229.
Warren, G. *See* Rabouille, Misteli, Watson, and Warren.
Warren, K. S., Lin, J. L.-C., McDermott, J. P., and Lin, J. J.-C. Forced expression of chimeric human fibroblast tropomyosin mutants affects cytokinesis. 697.
Warren, S. L. *See* Bregman, Du, van der Zee, and Warren.
Watson, R. *See* Rabouille, Misteli, Watson, and Warren.
Weghuis, D. O. *See* Brakenhoff, Gerretsen, Knippels, van Dijk, van Essen, Weghuis, Sinke, Snow, and van Dongen.
Weisenberger, D., and Scheer, U. A possible mechanism for the inhibition of ribosomal RNA gene transcription during mitosis. 561.
Werb, Z. *See* Huhtala, Humphries, McCarthy, Tremble, Werb, and Damsky.
— *See* Tremble, Damsky, and Werb.
Wesseling, J., van der Valk, S. W., Vos, H. L., Sonnenberg, A., and Hilkens, J. Episialin (MUC1) overexpression inhibits integrin-mediated cell adhesion to extracellular matrix components. 255.
Wheaton, V. I. *See* Otsuka, Franco, Yang, Shim, Tang, Zhang, Boontrakulpoontawee, Jeyaprakash, Hedgecock, Wheaton, and Sobery.
Wilkerson, C. G., King, S. M., Koutoulis, A., Pazour, G. J., and Witman, G. B. The 78,000 M_r intermediate chain of *Chlamydomonas* outer arm dynein is a WD-repeat protein required for arm assembly. 169.
Willecke, K. *See* Elfgang, Eckert, Lichtenberg-Fraté, Butterweck, Traub, Klein, Hülser, and Willecke.
Williams, B. C., Riedy, M. F., Williams, E. V., Gatti, M., and Goldberg, M. L. The *Drosophila* kinesin-like protein KLP3A is a midbody component required for central spindle assembly and initiation of cytokinesis. 709.
Williams, E. V. *See* Williams, Riedy, Williams, Gatti, and Goldberg.
Winey, M., Mamay, C. L., O'Toole, E. T., Mastronarde, D. N., Giddings, T. H., Jr., McDonald, K. L., and McIntosh, J. R. Three-dimensional ultrastructural analysis of the *Saccharomyces cerevisiae* mitotic spindle. 1601.
Winkles, J. A. *See* FitzGerald, Fryling, Zdanovsky, Saelinger, Kounnas, Winkles, Strickland, and Leppla.
Witman, G. B. *See* Wilkerson, King, Koutoulis, Pazour, and Witman.
Wolin, S. L. *See* Matera, Frey, Margelot, and Wolin.
Wooten, D. C. *See* Sun, Kwiatkowska, Wooten, and Yin.

Wu, L., Valkema, R., Van Haastert, P. J. M., and Devreotes, P. N. The G protein β subunit is essential for multiple responses to chemoattractants in *Dictyostelium*. 1667.

X

Xiao, Y., Grieshammer, U., and Rosenthal, N. Regulation of a muscle-specific transgene by retinoic acid. 1345.
Xie, J. *See* Li, Xie, Kantor, Koistinen, Altieri, Nortamo, and Gahmberg.

Y

Yamaai, T. *See* Takebayashi, Iwamoto, Jikko, Matsumura, Enomoto-Iwamoto, Myoukai, Koyama, Yamaai, Matsumoto, Nakamura, Kurisu, and Noji.
Yamazaki, T., Selkoe, D. J., and Koo, E. H. Trafficking of cell surface β-amyloid precursor protein: Retrograde and transcytotic transport in cultured neurons. 431.
Yan, H., and Newport, J. An analysis of the regulation of DNA synthesis by cdk2, Cipl, and licensing factor. 1.
Yanagida, M. *See* Hagan and Yanagida.
Yang, B. *See* Otsuka, Franco, Yang, Shim, Tang, Zhang, Boontrakulpoontawee, Jeyaprakash, Hedgecock, Wheaton, and Sobery.
Yin, H. L. *See* Sun, Kwiatkowska, Wooten, and Yin.
Yoshida, C. K. *See* Murphy-Erdosh, Yoshida, Paradies, and Reichardt.
Yu, Q-C. *See* Lloyd, Yu, Cheng, Turksen, Degenstein, Hutton, and Fuchs.
Yuen, I. S., Jain, R., Bishop, J. D., Lindsey, D. F., Deery, W. J., Van Haastert, P. J. M., and Gomer, R. H. A density-sensing factor regulates signal transduction in *Dictyostelium*. 1251.
Yurchenco, P. *See* Streuli, Schmidhauser, Bailey, Yurchenco, Skubitz, Roskelley, and Bissell.

Z

Zacchetti, D. *See* Lorenzon, Zacchetti, Codazzi, Fumagalli, Meldolesi, and Grohovaz.
Zambruno, G., Marchisio, P. C., Marconi, A., Vaschieri, C., Melchiori, A., Giannetti, A., and De Luca, M. Transforming growth factor-β1 modulates β1 and β5 integrin receptors and induces the de novo expression of the $\alpha v\beta 6$ heterodimer in normal human keratinocytes: Implications for wound healing. 853.
Zanin, M. K. B. *See* Balsamo, Ernst, Zanin, Hoffman, and Lilien.
Zarnegar, R., and Michalopoulos, G. K. The many faces of hepatocyte growth factor: From hepatopoiesis to hematopoiesis. 1177.
Zdanovsky, A. *See* FitzGerald, Fryling, Zdanovsky, Saelinger, Kounnas, Winkles, Strickland, and Leppla.
Zha, H. *See* Wang, Millan, Cox, Der, Rapp, Beck, Zha, and Reed.
Zhang, D., and Nicklas, R. B. The impact of chromosomes and centrosomes on spindle assembly as observed in living cells. 1287.
Zhang, H., Hu, W., and Ramirez, F. Developmental expression of fibrillin genes suggests heterogeneity of extracellular microfibrils. 1165.
Zhang, J. W., and Lazarow, P. B. *PEB1 (PAS7)* in *Saccharomyces cerevisiae* encodes a hydrophilic, intra-peroxisomal protein that is a member of the WD repeat family and is essential for the import of thiolase into peroxisomes. 65.
Zhang, Y. Y. *See* Otsuka, Franco, Yang, Shim, Tang, Zhang, Boontrakulpoontawee, Jeyaprakash, Hedgecock, Wheaton, and Sobery.
Zhang, Z. *See* Nakagawa, Chen, Zhang, Kanai, and Hirokawa.
Zheng, J., Saksela, O., Matikainen, S., and Vaheri, A. Keratinocyte growth factor is a bifunctional regulator of HPV16 DNA-immortalized cervical epithelial cells. 843.
Zhu, X., and Lindberg, I. 7B2 facilitates the maturation of proPC2 in neuroendocrine cells and is required for the expression of enzymatic activity. 1641.
Zurzolo, C. *See* Marrs, Andersson-Fisone, Jeong, Cohen-Gould, Zurzolo, Nabi, Rodriguez-Boulan, and Nelson.

SUBJECT INDEX VOLUME 129

A431 cells, oligomerization of epidermal growth factor receptors on, time-resolved fluorescence imaging microscopy, stereochemical model for tyrosine kinase receptor activation, 1543
Acetylated low density lipoproteins, sequestration of, cholesterol crystals, human monocyte-derived macrophages, 133
Acetylation, of lysine 40 in α-tubulin is not essential in *Tetrahymena thermophila*, 1301
Actin
  CapG overexpression on agonist-induced motility and second messenger generation, 147
  filament organization in fish keratocyte lamellipodium, 1275
  interactions of p85α with focal adhesion kinase and, integrin-dependent translocation of phosphoinositide 3-kinase to cytoskeleton of thrombin-activated platelets, 831
  polymerization of, intracellular solvent flow in cell surface blebbing, 1589
  α_{sk}, regulation of muscle-specific transgene by retinoic acid, 1345
  a talin homologue of *Dictyostelium* assembles at leading edge in response to chemoattractant, 179
α-Actinin, cytoplasmic domain of L-selectin interacts with cytoskeletal proteins via, receptor positioning in microvilli does not require interaction with α-actinin, 1155
Adenylyl cyclase, chemoattractant and GTPγS-mediated stimulation of, *Dictyostelium*, translocation of CRAC to membranes, 1659
Adherens-type junctions, Schwann cell architecture stabilized by, E-cadherin–mediated adhesion in peripheral nerve, 189
Adhesion
  of cadherin, modulation of expression, plasticity in epithelial cell phenotype, 507
  cadherin-binding specificities of B-cadherin and LCAM, 1379
  episialin overexpression inhibits integrin-mediated, extracellular matrix components, 255
  heparin-binding epidermal growth factor-like growth factor and diphtheria toxin receptor–associated protein (DRAP27)/CD9 form complex with integrin α3β1 at cell–cell contact sites, 1691
  human E48 antigen is GPI-anchored molecule involved in, keratinocyte cell–cell adhesion, highly homologous to murine Ly-6 antigen ThB, 1677
  inhibition of cadherin-mediated, interaction of N-acetylgalactosaminylphospho-transferase with endogenous proteoglycan ligand, retina cell surface, 1391
  $\alpha_4\beta_6$-mediated, recombinant tail-less integrin β_4 subunit disrupts hemidesmosomes, laminins, 473
  mediated by E-cadherin, peripheral nerve, Schwann cell architecture stabilized by autotypic adherens junctions, 189
  a peptide derived from intercellular adhesion molecule-2 regulates avidity of leukocyte integrins CD11b/CD18 and CD11c/CD18, 1143
  role of cadherin in, mouse intestinal epithelium, maintenance of differentiation, regulation of programmed cell death, 489
Adipose cells, expression and compartmentalization of caveolin in, coordinate regulation with and structural segregation from GLUT4, 999
Alzheimer's disease, trafficking of cell surface β-amyloid precursor protein, retrograde and transcytotic transport in cultured neurons, 431
Amino-terminal domain, distinct and interdependent functions of, carboxy-terminal domain, molecular dissection of radixin, 1007
β-Amyloid precursor protein, trafficking of, retrograde and transcytotic transport in cultured neurons, 431
Anaphase, microinjection of mitotic cells with 3F3/2 anti-phosphoepitope antibody delays onset of, 1195
Angiogenesis, endothelial receptor tyrosine kinases involved in, 895
Ankyrin-related proteins, necessary for proper axonal guidance in *Caenorhabditis elegans*, 1081
Annulate lamellae, nuclear pore complex assembly studied with biochemical assay for formation of, 1459
Anterograde motor, KIF2 is microtubule-based, transport of membranous organelles, kinesin heavy chain or KIF3A/B, 157
3F3/2 anti-phosphoepitope antibody, delays onset of anaphase, microinjection of mitotic cells, 1195
Apoptosis
  bcl-2 overexpression inhibits, promotion of morphogenesis but not tumorigenesis of human mammary epithelial cells, 1363
  caused by growth factor deprivation via Bcl-2 suppressible mechanism, R-Ras, 1103
  cells differentiating into neuroectoderm undergo, absence of functional retinoblastoma family proteins, 779
Autocrine motility factor receptor, is marker for distinct membranous tubular organelle, 459
Axial budding
  patterns of bud-site selection in *Saccharomyces cerevisiae*, 751
  role of Bud3p in producing, yeast, 767
Axis orientation, cell contacts orient some cell division axes in *Caenorhabditis elegans* embryo, 1071
Axon
  interactions with Schwann cells regulated by transforming growth factor-β1, 443
  rbSECIA and B colocalize with syntaxin 1 and SNAP-25 in, 105
Axonal guidance, ankyrin-related gene is necessary for, *unc-44*, *Caenorhabditis elegans*, 1081
Axonal transport, KIF2 is new microtubule-based anterograde motor, transport of membranous organelles, kinesin heavy chain or KIF3A/B, 157
B cell leukemia/lymphoma-2, overexpression of inhibits cell death and promotes morphogenesis, but not tumorigenesis of human mammary epithelial cells, 1363
7B2 protein, facilitates maturation of proPC2 in neuroendocrine cells, expression of enzymatic activity, 1641
Basal cells, of keratin network of stratified squamous epithelia, defining K15 function in absence of K14, 1329
Basic fibroblast growth factor, differential modulation of cell phenotype by molecular weight forms of, intracellular signaling by high molecular weight forms, 233
B-cadherin, cadherin-binding specificities of LCAM and, 1379
B-cell lymphoma-2, R-Ras promotes apoptosis caused by growth factor deprivation via, suppressible mechanism, 1103
Bipolar budding, patterns of bud-site selection in *Saccharomyces cerevisiae*, 751
Blastoderm, 95F unconventional myosin is required for proper organization of, *Drosophila* syncytial blastoderm, 1575
Blebs, actin polymerization and intracellular solvent flow in, 1589
BM28, is displaced from chromatin during DNA replication, human member of MCM2-3-5 family, 1433
Branching morphogenesis, perturbation of, antibodies against domain E3 of laminin-1 and integrin α6 subunit, submandibular gland, 521
Bud3p, role in producing axial budding pattern in yeast, 767
Bud-site selection
  role of Bud3p in producing axial budding pattern in yeast, 767
  in *Saccharomyces cerevisiae*, 751
Cadherin
  association of plakoglobin, β-catenin, and α-catenin with, vascular endothelial cadherin, molecular organization of endothelial cell to cell junctions, 203
  function in mouse intestinal epithelium, roles of adhesion, maintenance of differentiation, regulation of programmed cell death, 489
  modulation of expression by, cell adhesion molecules, plasticity in epithelial cell phenotype, 507
Cadherin-binding specificities of B-cadherin and LCAM, 1379
Cadherin-mediated adhesion
  inhibition of, interaction of N-acetylgalactosaminylphosphotransferase with endogenous proteoglycan ligand, retina cell surface, 1391
  in peripheral nerve, E-cadherin, Schwann cell architecture stabilized by autotypic adherens junctions, 189
Caenorhabditis elegans
  ankyrin-related gene is necessary for proper axonal guidance in, *unc-44*, 1081

cell contacts orient some cell division axes in embryos of, 1071
characterization of βpat-3 heterodimers in, integrin receptors, 1127
Calcitonin gene-related peptide, promotes Schwann cell proliferation, 789
Calcium, selectively suppresses IL-1–induced NO production, intracellular Ca^{2+}, reducing iNOS mRNA stability, 1651
Calcium mobilization, trypanosome-soluble factor induces intracellular, IP_3 formation, microfilament rearrangement in host cells, 1263
Calcium signaling, bidirectional receptor-oriented form of, Ca^{2+} waves in PC12 neurites, 797
Calcium-binding protein, expressed in subset of peripheral leech neurons, calsensin, single axon tract, 1355
Calsensin, expressed in subset of peripheral leech neurons fasciculating in single axon tract, novel calcium-binding protein, 1355
CapG, effects of overexpression of, agonist-induced motility and second messenger generation, 147
Carboxy-terminal domain, distinct and interdependent functions of, amino-terminal domain, molecular dissection of radixin, 1007
Carboxyl-terminal tail domain, two distinct functions of, NF-M, neurofilament assembly, cross-bridge formation and longitudinal elongation of filaments, 411
Cardiac muscle
molecular architecture of membranes involved in excitation–contraction coupling of, 659
myosin light chain 3F regulatory sequences confer expression in, skeletal muscle, transgenic mice, 383
Cardiac myocytes, thin filament assembly in embryonic chick, tropomodulin requires tropomyosin for assembly, 683
Cartilage, transglutaminase-catalyzed matrix cross-linking in, osteonectin as major glutaminyl substrate, 881
β-Casein gene, laminin mediates tissue-specific gene expression in mammary epithelia, 591
Catenins, associated with plakoglobin, molecular organization of endothelial cell to cell junctions, β-catenin, α-catenin, vascular endothelial cadherin, 203
Caveolae, urokinase-type plasminogen activator receptor localized in, GPI-linked protein, 335
Caveolin
expression and compartmentalization of, adipose cells, coordinate regulation with and structural segregation from GLUT4, 999
glycolipid-anchored proteins in neuroblastoma cells form detergent-resistant complexes without, 619
insulin stimulates tyrosine phosphorylation of, 1523
Cdc28, cell cycle checkpoint monitors cell morphogenesis in budding yeast, 739
CDC20 gene, *Drosophila* cell cycle gene *fizzy* has homology to, *Saccharomyces cerevisiae*, normal degradation of cyclins A and B during mitosis, 725
cdk2 kinase, regulates DNA synthesis, Cipl, licensing factor, 1
Cell cycle progression, differential methylation and altered conformation of cytoplasmic and nuclear forms of protein phosphatase 2A during, 397
Cell division
cell contacts orient axes of, *Caenorhabditis elegans* embryo, 1071
gated by circadian clock, *Chlamydomonas reinhardtii*, 1061
Cell morphogenesis, cell cycle checkpoint monitors, budding yeast, 739
Cell motility, hepatocyte growth factor/scatter factor modulates proliferation, proteoglycan synthesis of chondrocytes and, 1411
Cell proliferation, pendulin is required for, *Drosophila* protein with cell cycle-dependent nuclear localization, 1491
Cells
A431, oligomerization of epidermal growth factor receptors on, time-resolved fluorescence imaging microscopy, stereochemical model for tyrosine kinase receptor activation, 1543
cervical, keratinocyte growth factor is bifunctional regulator of HPV16 DNA-immortalized epithelial, 843
Cellubrevin, similar subcellular localization and biochemical properties with synaptobrevins, PC12 cells, 219
Cellular phenotypes, differential modulation of, molecular weight forms of basic fibroblast growth factor, intracellular signaling by high molecular weight forms, 233
Central spindle, *Drosophila* kinesin-like protein KLP3A is midbody component required for assembly of, initiation of cytokinesis, 709
Centrosomes, impact spindle assembly in living cells, chromosomes, 1287
Cervical cells, keratinocyte growth factor is bifunctional regulator of HPV16 DNA-immortalized epithelial, 843
Checkpoint controls
microinjection of mitotic cells with 3F3/2 anti-phosphoepitope antibody delays onset of anaphase, 1195
monitor cell morphogenesis in budding yeast, 739
nuclear envelope breakdown is under nuclear not cytoplasmic control in sea urchin zygotes, 1447
Chemoattractants
G protein β subunit is essential for multiple responses to, *Dictyostelium*, 1667
stimulation of adenylyl cyclase in *Dictyostelium* requires translocation of CRAC to membranes, GTPγS-mediated stimulation, 1659
Chemotaxis
density-sensing factor regulates signal transduction in *Dictyostelium*, 1251
a talin homologue of *Dictyostelium* assembles at leading edge in response to chemoattractant, 179
Chicken
molecular cloning of β-tectorin in, extracellular matrix molecule of inner ear, 535
thin filament assembly in embryonic cardiac myocytes of, tropomodulin requires tropomyosin for assembly, 683
Chironomus tentans, structural interaction between nuclear pore complex and specific translocating RNP particle, 1205
Chlamydomonas, 78,000 M_r intermediate chain of, outer arm dynein, WD-repeat protein required for arm assembly, 169
Chlamydomonas reinhardtii, cell division cycle gated by circadian clock in, 1061
Chloroplast receptor, enzymatic product formation impairs binding function of, translocation competence of NADPH: protochlorophyllide oxidoreductase, plastid precursor protein, 299
CHO2 antigen, characterization of minus end–directed kinesin-like motor protein from cultured mammalian cells, 1049
Cholesterol
depletion and modification by, COOH-terminal targeting sequence of prion protein, inhibition of scrapie isoform, 121
sequestration of, acetylated LDL, human monocyte-derived macrophages, 133
Chondrocytes
hepatocyte growth factor/scatter factor modulates cell motility, proliferation, and proteoglycan synthesis of, 1411
increased intracellular Ca^{2+} selectively suppresses IL-1–induced NO production by reducing iNOS mRNA stability, 1651
Chromatin, BM28 is displaced from, human member of MCM2-3-5 family, DNA replication, 1433
Chromosomes, impact on spindle assembly in living cells, centrosomes, 1287
Cipl, regulates DNA synthesis, cdk2, licensing factor, 1
Circadian rhythm, gates cell division cycle, *Chlamydomonas reinhardtii*, 1061
Coated pits
of MDCK cells differ in rates of maturation into coated vesicles, apical and basolateral pits, mutant hemagglutinin proteins with different internalization signals, 1241
recruitment of epidermal growth factor receptors into, activated tyrosine kinase, 47
Collagen, pro-α1(I), *cis*-acting DNA elements of promoter of, mouse, direct expression of reporter genes to different type I collagen-producing cells in transgenic mice, 1421
Collagenase, nuclear signaling cascade regulates gene expression of, integrin-derived signals, 1707
Con A, myosin I from rat localizes to structures inducible by, SH3 domain, cell–cell contacts, 819
Conditioned medium factor, regulates signal transduction in *Dictyostelium discoideum*, density-sensing factor, 1251
Connexin-transfected HeLa cells, specific permeability and selective formation of gap junction channels, 805
COOH terminus, characterization of minus end–directed kinesin-like motor protein from cultured mammalian cells, 1049
COOH-terminal tail, insulin-sensitive targeting of GLUT4 glucose transporter in L6 myoblasts is conferred by, 641
CRAC, translocation of CRAC to membranes, chemoattractant and GTPγS-mediated stimulation of adenylyl cyclase in *Dictyostelium*, 1659
Cross-bridges, formation of, longitudinal elongation of filaments, two functions of carboxyl-terminal tail domain of NF-M upon assembly of neurofilament assembly, 411
Cyclins, *Drosophila* cell cycle gene *fizzy* required for normal degradation of, cyclins A and B during mitosis, homology to *CDC20* gene of *Saccharomyces cerevisiae*, 725
Cytokinesis
Drosophila kinesin-like protein KLP3A is midbody component required for initiation of, central spindle assembly, 709
forced expression of chimeric human fibroblast tropomyosin mutants affects, 697

Cytoplasmic domain, interacts with cytoskeletal proteins via α-actinin, receptor positioning in microvilli does not require interaction with α-actinin, 1155
Cytoskeletal proteins, cytoplasmic domain of L-selectin interacts with, receptor positioning in microvilli does not require interaction with α-actinin, 1155
Cytoskeleton
integrin-dependent translocation of phosphoinositide 3-kinase to, thrombin-activated platelets, interactions of p85α with actin filaments and focal adhesion kinase, 831
rearrangements of during entry of *Shigella flexneri* into HeLa cells, functional role of T-plastin, 367
Detergent-resistant complexes, glycolipid-anchored proteins in neuroblastoma cells form, caveolin, 619
Dictyostelium
chemoattractant and GTPγS-mediated stimulation of adenylyl cyclase in, translocation of CRAC to membranes, 1659
G protein β subunit is essential for multiple responses to chemoattractants in, 1667
Dictyostelium discoideum
density-sensing factor regulates signal transduction in, 1251
a talin homologue of, assembly at leading edge in response to chemoattractant, 179
Diffusion, of transferrin receptor in plasma membrane, barriers for lateral diffusion, receptor dragging by laser tweezers, fence versus tether, 1559
Dihydropyridine receptors, molecular architecture of membranes involved in excitation–contraction coupling of cardiac muscle, 659
Dilysine signals, steric masking of in endoplasmic reticulum, retention motif, assembly of human high affinity receptor for immunoglobulin E, 971
Diphtheria toxin receptor–associated protein, and heparin-binding epidermal growth factor-like growth factor form complex with integrin α3β1 at cell–cell contact sites, DRAP27/CD9, 1691
DNA elements, of mouse pro-α1(I) collagen promoter direct expression of reporter genes, *cis*-acting, different type I collagen-producing cells in transgenic mice, 1421
DNA replication, BM28 is displaced from chromatin during, human member of MCM2-3-5 family, 1433
DNA synthesis, regulation of, cdk2, Cipl, licensing factor, 1
DnaJ homologue, can function in endoplasmic reticulum with BiP/Kar2p, yeast, Scj1p, conserved domain that specifies interactions with Hsp70s, 979
Dragging, by laser tweezers, fence versus tether, barriers for lateral diffusion of transferrin receptor in plasma membrane, 1559
Drosophila
cell cycle gene *fizzy* of, normal degradation of cyclins A and B during mitosis, homology to *CDC20* gene of *Saccharomyces cerevisiae*, 725
95F unconventional myosin is required for proper organization of syncytial blastoderm of, 1575
kinesin-like protein in, midbody component required for central spindle assembly and initiation of cytokinesis, 709
overgrown hematopoietic organs-31 tumor suppressor gene of, *importin*-like protein accumulates in nucleus at onset of mitosis, 1473
protein with cell cycle-dependent nuclear localization in, pendulin is required for normal cell proliferation, 1491
Dyadic proteins, immunolocalization of sarcolemmal dihydropyridine receptor and sarcoplasmic reticular triadin and ryanodine receptor in rabbit ventricle and atrium, 673
α-Dystroglycan, distribution of during embryonic nerve–muscle synaptogenesis, 1093
E48 antigen, is GPI-anchored molecule involved in keratinocyte cell–cell adhesion, highly homologous to murine Ly-6 antigen ThB, 1677
Embryogenesis, developmental expression of fibrillin genes suggests heterogeneity of extracellular microfibrils, 1165
EMS cell, cell contacts orient some cell division axes in *Caenorhabditis elegans* embryo, 1071
Endocytic recycling compartment, oligomerized transferrin receptors are selectively retained by lumenal sorting signal in, 1509
Endocytosis
exocytotic fusion pore of small granules has conductance similar to ion channel, 99
of interleukin 2 receptors in human T lymphocytes, intracellular localization and fate of receptor α, β, and γ chains, 55
and intracellular sorting in alveolar macrophages, "synchronized" endocytosis, early sorting endosome is transient organelle, 1229
low density lipoprotein receptor–related protein as an endocytic receptor for thrombospondin-1, 1403
molecular size–fractionation during, macrophages, 989
recruitment of epidermal growth factor receptors into coated pits requires activated tyrosine kinase, 47
Endoplasmic reticulum
capacity to retrieve proteins of, *trans*-most cisterna of Golgi stack, 309
nascent chain–Sec61p interactions accompany translocation across membrane of, stage- and ribosome-specific alterations, 957
steric masking of dilysine retention motif in, assembly of human high affinity receptor for immunoglobulin E, 971
yeast DnaJ homologue can function in, Scj1p, BiP/Kar2p, conserved domain that specifies interactions with Hsp70s, 979
Endosomes
early sorting endosome is transient organelle, synchronized endocytosis and intracellular sorting in alveolar macrophages, 1229
localization of major histocompatibility complex class II–invariant chain complexes in, multimerization of invariant chain targeting sequence, 1217
Endothelial cells, molecular organization of cell to cell junctions, association of plakoglobin, β-catenin, and α-catenin with vascular endothelial cadherin, 203
Endothelium, receptor tyrosine kinases of, angiogenesis, 895
Enzymatic activity, expression of, 7B2 protein facilitates maturation of proPC2 in neuroendocrine cells, 1641
Epidermal growth factor receptors
oligomerization of, A431 cells studied by time-resolved fluorescence imaging microscopy, stereochemical model for tyrosine kinase receptor activation, 1543
recruitment into coated pits, activated tyrosine kinase, 47
Epidermolysis bullosa simplex, basal keratin network of stratified squamous epithelia, defining K15 function in absence of K14, 1329
Episialin, overexpression of inhibits integrin-mediated cell adhesion, extracellular matrix components, 255
Epithelial cells, involvement of pRB family in TGFβ-dependent hypertrophy in, 245
Epithelium
basal keratin network of, stratified squamous, defining K15 function in absence of K14, 1329
bcl-2 overexpression inhibits cell death and promotes morphogenesis but not tumorigenesis of, human mammary cells, 1363
cadherin function in mouse intestinal, roles of adhesion, maintenance of differentiation, regulation of programmed cell death, 489
extracellular matrix regulates whey acidic protein gene expression by suppression of TGF-α in, mouse mammary cells, in culture and transgenic mice, 1115
keratinocyte growth factor is bifunctional regulator of HPV16 DNA-immortalized cervical cells of, 843
laminin mediates tissue-specific gene expression in mammary, 591
perturbation of branching morphogenesis of, submandibular gland, antibodies against domain E3 of laminin-1 and integrin α6 subunit, 521
plasticity of cell phenotype of, modulation of expression of different cadherin cell adhesion molecules, 507
specific receptor detection by functional keratinocyte growth factor–immunoglobulin chimera, 357
Excitation–contraction coupling, molecular architecture of membranes in, cardiac muscle, 659
Exocytosis
of fusion pore of small granules, conductance similar to ion channel, 99
rbSEC1A and B colocalize with syntaxin 1 and SNAP-25 in axon, 105
similar subcellular localization and biochemical properties of cellubrevin and synaptobrevins, PC12 cells, 219
Exotoxin-mediated selection, *Pseudomonas*, cells with altered expression of low-density lipoprotein receptor–related protein, 1533
Extracellular matrix
integrin-mediated cell adhesion to, episialin overexpression, 255
molecule, of inner ear, molecular cloning of chick β-tectorin, 535
regulates whey acidic protein gene expression, suppression of TGF-α in mouse mammary epithelial cells, in culture and transgenic mice, 1115
95F myosin, is unconventional myosin required for proper organization of *Drosophila* syncytial blastoderm, 1575
F-actin, myosin I from rat localizes to Con A–inducible structures rich in, SH3 domain, cell–cell contacts, 819
Fibrillin genes, developmental expression of, heterogeneity of extracellular microfibrils, 1165

Fibroblast growth factor receptors, specific receptor detection by functional keratinocyte growth factor–immunoglobulin chimera, 357
Fibroblasts, cooperative signaling by $\alpha5\beta1$ and $\alpha4\beta1$ integrins regulates metalloproteinase gene expression in, adhesion to fibronectin, 867
Fibronectin
cooperative signaling by $\alpha5\beta1$ and $\alpha4\beta1$ integrins regulates metalloproteinase gene expression in fibroblasts adhering to, 867
nuclear signaling cascade regulates collagenase gene expression in response to integrin-derived signals, 1707
Fish, actin filament organization in keratocyte lamellipodium of, 1275
Fission yeast, product of spindle formation gene $sadl^+$ associates with spindle pole body in, viability, 1033
fizzy gene, of *Drosophila*, cell cycle gene, normal degradation of cyclins A and B during mitosis, homology to *CDC20* gene of *Saccharomyces cerevisiae*, 725
Fluorescence imaging microscopy, oligomerization of epidermal growth factor receptors on A431 cells studied by, stereochemical model for tyrosine kinase receptor activation, 1543
Focal adhesion kinase, interactions of p85α with actin filaments and, integrin-dependent translocation of phosphoinositide 3-kinase to cytoskeleton of thrombin-activated platelets, 831
Forskolin, calcitonin gene-related protein promotes Schwann cell proliferation, 789
Fractionation, during endocytosis in macrophages, molecular size, 989
Fusion pore, of small granules has conductance similar to ion channel, exocytosis, 99
G protein β subunit, is essential for multiple responses to chemoattractants in *Dictyostelium*, 1667
Gaalp, required for attachment of completed GPI anchor onto proteins, yeast, 629
Gap junction channels, selective formation of, permeability, connexin-transfected HeLa cells, 805
Gelsolin, CapG overexpression on agonist-induced motility and second messenger generation, 147
GLUT4, coordinate regulation with and structural segregation from, expression and compartmentalization of caveolin in adipose cells, 999
GLUT4 glucose transporter, insulin-sensitive targeting of, L6 myoblasts, COOH-terminal cytoplasmic tail, 641
Glutaminyl, osteonectin as major substrate of, transglutaminase-catalyzed matrix cross-linking in differentiating cartilage, 881
Glycolipid-anchored proteins, form detergent-resistant complexes without caveolin, neuroblastoma cells, 619
Glycophosphatidyl inositol, cholesterol depletion and modification of COOH-terminal targeting sequence of prion protein, inhibition of scrapie isoform, 121
Glycosylphosphatidylinositol
-anchored molecule involved in keratinocyte cell–cell adhesion, human E48 antigen is highly homologous to murine Ly-6 antigen ThB, 1677
anchored onto proteins, yeast Gaalp is required for attachment, 629
-linked glycoprotein, is localized in caveolae, urokinase-type plasminogen activator receptor, 335
Golgi apparatus, membrane proteins of, vacuolar membrane proteins, *vps1* mutant yeast cells, plasma membrane, 35
Golgi stacks
capacity to retrieve escaped ER proteins extends to *trans*-most cisterna of, 309
reassembly of, mitotic Golgi fragments in cell-free system, 605
reconstitution of vesiculated Golgi membranes into, cisternae, NSF required in stack formation, 577
Grasshopper, impact of chromosomes and centrosomes on spindle assembly in living cells, 1287
Growth factor, R-Ras promotes apoptosis caused by deprivation of, Bcl-2 suppressible mechanism, 1103
GTPγS-mediated stimulation of adenylyl cyclase in *Dictyostelium* requires translocation of CRAC to membranes, chemoattractant, 1659
HeLa cells
cytoskeletal rearrangements and functional role of T-plastin during entry of *Shigella flexneri* into, 367
specific permeability and selective formation of gap junction channels in connexin-transfected, 805
Hemagglutinin proteins, apical and basolateral coated pits of MDCK cells, mutant hemagglutinin proteins with different internalization signals, rates of maturation into coated vesicles, 1241
Hematopoiesis, many faces of hepatocyte growth factor, hepatopoiesis, 1177
Hemidesmosomes, recombinant tail-less integrin β_4 subunit disrupts, no suppression of $\alpha_6\beta_4$-mediated cell adhesion to laminins, 473
Heparin-binding epidermal growth factor-like growth factor, and diphtheria toxin receptor–associated protein (DRAP27)/CD9 form complex with integrin $\alpha3\beta1$ at cell–cell contact sites, 1691
Heparin-binding growth/differentiation factors, regulated by retinoic acid and epithelial–mesenchymal interactions in developing mouse tooth, cell proliferation and morphogenesis, midkine, 267
Hepatocyte growth factor, many faces of, hepatopoiesis, hematopoiesis, 1177
Hepatocyte growth factor/scatter factor, modulates cell motility, proliferation, and proteoglycan synthesis of chondrocytes, 1411
Hepatopoiesis, many faces of hepatocyte growth factor, hematopoiesis, 1177
$\alpha v\beta6$ Heterodimer, transforming growth factor-$\beta1$ modulates $\beta1$ and $\beta5$ integrin receptors and induces expression of, human keratinocytes, implications for wound healing, 853
Heterogeneous nuclear RNP A1 protein, nuclear localization domain in, 551
HPV16, keratinocyte growth factor is bifunctional regulator of, cervical epithelial cells, 843
Hsp70s, conserved domain that specifies interactions with, yeast DnaJ homologue can function in endoplasmic reticulum with BiP/Kar2p, Scj1p, 979
Human fibroblasts, forced expression of chimeric, tropomyosin mutants affect cytokinesis, 697
Hypertrophy, involvement of pRB family in TGFβ-dependent, epithelial cells, 245
Immunoglobulin, chimeric molecule of, specific receptor detection by functional keratinocyte growth factor, 357
Immunoglobulin E, assembly of human high affinity receptor for, steric masking for dilysine endoplasmic reticulum retention motif, 971
Importin-like protein, accumulates in nucleus at onset of mitosis, *overgrown hematopoietic organs-3l* tumor suppressor gene of *Drosophila*, 1473
Inner ear, extracellular matrix molecule of, molecular cloning of chick β-tectorin, 535
Inositol, 1,4,5-trisphosphate, trypanosome-soluble factor induces formation of, intracellular Ca^{2+} mobilization and microfilament rearrangement in host cells, 1263
Insulin
-sensitive targeting of GLUT4 glucose transporter in L6 myoblasts, COOH-terminal cytoplasmic tail, 641
stimulates tyrosine phosphorylation of caveolin, 1523
Integrin(s)
CD11b/CD18 and CD11c/CD18, a peptide derived from intercellular adhesion molecule-2 regulates avidity of, leukocytes, 1143
$\alpha5\beta1$ and $\alpha4\beta1$, cooperative signaling by, metalloproteinase gene expression in fibroblasts adhering to fibronectin, 867
-derived signals, nuclear signaling cascade regulates collagenase gene expression, 1707
$\alpha3\beta1$, heparin-binding epidermal growth factor-like growth factor and diphtheria toxin receptor–associated protein (DRAP27)/CD9 form complex with, cell–cell contact sites, 1691
$\alpha_6\beta_4$ integrin-mediated cell adhesion to laminins, recombinant tail-less integrin β_4 subunit disrupts hemidesmosomes, 473
mediates cell adhesion to extracellular matrix components, episialin overexpression, 255
$\alpha6$ subunit, antibodies against, domain E3 of laminin-1, perturbation of branching epithelial morphogenesis of submandibular gland, 521
β subunit, in *Caenorhabditis elegans*, characterization of βpat-3 heterodimers, 1127
transforming growth factor-$\beta1$ modulates $\beta1$ and $\beta5$ integrin receptors, expression of $\alpha v\beta6$ heterodimer in human keratinocytes, implications for wound healing, 853
Intercellular adhesion molecule-2, a peptide derived from regulates avidity of leukocyte integrins CD11b/CD18 and CD11c/CD18, 1143
Intercellular junctions, molecular organization of, association of plakoglobin, β-catenin, and α-catenin with vascular endothelial cadherin, 203
Interleukin-1, -induced NO production, increased intracellular Ca^{2+}, reducing iNOS mRNA stability, 1651
Interleukin 2, endocytosis of, human T lymphocytes, intracellular localization and fate of receptor α, β, and γ chains, 55
Intermediate chain 78, of *Chlamydomonas* outer arm dynein, WD-repeat protein required for arm assembly, 169
Internalization signals, apical and basolateral coated pits of MDCK cells do not differ in ability to distinguish between mutant hemagglutinin proteins and, rates of maturation into coated vesicles, 1241

Intracellular signaling, by high molecular weight forms, differential modulation of cell phenotype by molecular weight forms of basic fibroblast growth factor, 233
Intracellular solvent flow, in cell surface blebbing, actin polymerization, 1589
Intracellular sorting, in alveolar macrophages, synchronized endocytosis, early sorting endosome is transient organelle, 1229
Intracellular targeting, insulin-sensitive targeting of GLUT4 glucose transporter in L6 myoblasts is conferred by COOH-terminal cytoplasmic tail, 641
Intracellular trafficking, targeting of *Salmonella typhimurium* to vesicles, lysosomal membrane glycoproteins, mannose 6-phosphate receptors, 81
Invariant chain, –major histocompatibility class II complexes, multimerization of invariant chain targeting sequence, efficient endosomal localization, 1217
Ion channels, exocytotic fusion pore of small granules has conductance similar to, 99
Isoprenylation, of lamin B3, *Xenopus* oocytes, uptake into nucleus, 17
Keratinocyte growth factor
  is bifunctional regulator of HPV16 DNA-immortalized cervical epithelial cells, 843
  specific receptor detection by, immunoglobulin chimera, 357
Keratinocytes
  human E48 antigen is GPI-anchored molecule involved in cell–cell adhesion of, highly homologous to murine Ly-6 antigen ThB, 1677
  transforming growth factor-β1 modulates β1 and β5 integrin receptors and induces expression of $\alpha v\beta 6$ heterodimer in, implications for wound healing, 853
Keratins, basal network of in stratified squamous epithelia, defining K15 function in absence of K14, 1329
Keratocytes, actin filament organization in, fish lamellipodium, 1275
Kidney
  involvement of pRB family in TGFβ-dependent epithelial cell hypertrophy, 245
  reconstitution of vesiculated Golgi membranes into stacks of cisternae, NSP required in stack formation, 577
KIF2, new microtubule-based anterograde motor, transport of membranous organelles, kinesin heavy chain or KIF3A/B, 157
Kinases, regulatory interactions between Vps15 protein kinase and Vps34 PtdIns 3-kinase, vesicle-mediated protein transport, protein sorting to vacuole in yeast, 321
Kinesin, KIF2 is new microtubule-based anterograde motor, transport of membranous organelles, kinesin heavy chain or KIF3A/B, 157
Kinesin-like motor protein, characterization of minus end–directed, cultured mammalian cells, 1049
Kinesin-like protein KLP3A, is midbody component required for central spindle assembly and initiation of cytokinesis, *Drosophila*, 709
Kinetochores
  impact of chromosomes and centrosomes on spindle assembly in living cells, 1287
  microinjection of mitotic cells with 3F3/2 anti-phosphoepitope antibody delays onset of anaphase, 1195
lacZ gene, myosin light chain 3F regulatory sequences confer expression in cardiac and skeletal muscle, transgenic mice, 383
Lamellipodium, actin filament organization in, fish keratocyte, 1275
Lamin B3, isoprenylation of, *Xenopus* oocytes, uptake into nucleus, 17
Laminin, mediates tissue-specific gene expression in mammary epithelia, 591
Laminin-1, antibodies against domain E3 of, integrin α6 subunit, perturbation of branching epithelial morphogenesis of submandibular gland, 521
Laminins, no suppression of $\alpha_6\beta_4$-mediated cell adhesion to, recombinant tail-less integrin β_4 subunit disrupts hemidesmosomes, 473
LCAM, cadherin-binding specificities of B-cadherin and, 1379
Leech, calsensin expressed in subset of peripheral neurons of, novel calcium-binding protein, single axon tract, 1355
Leukocytes, a peptide derived from intercellular adhesion molecule-2 regulates avidity of integrins CD11b/CD18 and CD11c/CD18 of, 1143
Licensing factor, regulates DNA synthesis, cdk2, Cip1, 1
Liver, reassembly of Golgi stacks from mitotic Golgi fragments in cell-free system, 605
Low-density lipoprotein receptor–related protein
  altered expression of, *Pseudomonas* exotoxin–mediated selection, 1533
  as an endocytic receptor for thrombospondin-1, 1403
L-Selectin, cytoplasmic domain of interacts with cytoskeletal proteins via α-actinin, receptor positioning in microvilli does not require interaction with α-actinin, 1155
Lumenal retention signal, oligomerized transferrin receptors are selectively retained by, long-lived endocytic recycling compartment, 1509
Lymphocytes, endocytosis of interleukin 2 receptors in, intracellular localization and fate of receptor α, β, and γ chains, 55
Lysine 40, acetylation of, α-tubulin, not essential in *Tetrahymena thermophila*, 1301
Lysosomes, membrane glycoproteins of, targeting of *Salmonella typhimurium* to vesicles, mannose 6-phosphate receptors, 81
Macrophages
  human monocyte-derived, sequestration of acetylated LDL and cholesterol crystals, 133
  molecular size–fractionation during endocytosis in, 989
  synchronized endocytosis and intracellular sorting in aveolar, early sorting endosome is transient organelle, 1229
Major histocompatibility complex class II molecules, –invariant chain complexes, multimerization of invariant chain targeting sequence, efficient endosomal localization, 1217
Mammalian cells, characterization of minus end–directed kinesin-like motor protein from, 1049
Mammary cells
  bcl-2 overexpression inhibits cell death and promotes morphogenesis but not tumorigenesis of, human epithelial, 1363
  extracellular matrix regulates whey acidic protein gene expression by suppression of TGF-α in, epithelial, in culture and transgenic mice, 1115
Mammary epithelial cells, laminin mediates tissue-specific gene expression in, 591
Mannose 6-phosphate receptors, bypassed compartments with, targeting of *Salmonella typhimurium*, vesicles containing lysosomal membrane glycoproteins, 81
Mas37p, a novel receptor subunit for protein import into mitochondria, 25
MCM2-3-5 family, BM28 is member of, displaced from chromatin during DNA replication, 1433
MDCK cells, apical and basolateral coated pits of, rates of maturation into coated vesicles, mutant hemagglutinin proteins with different internalization signals, 1241
Melanoma, urokinase-type plasminogen activator receptor localized in caveolae, GPI-linked protein, 335
Membrane proteins, of Golgi apparatus and vacuole, *vps1* mutant yeast cells, plasma membrane, 35
Metalloproteinase, cooperative signaling by $\alpha 5\beta 1$ and $\alpha 4\beta 1$ integrins regulates gene expression of, fibroblasts adhering to fibronectin, 867
Methylation, of cytoplasmic and nuclear forms of protein phosphatase 2A during cell cycle progression, altered conformation, 397
Microfibrils, developmental expression of fibrillin genes suggests heterogeneity of, extracellular microfibrils, 1165
Microfilaments
  forced expression of chimeric human fibroblast tropomyosin mutants affects cytokinesis, 697
  trypanosome-soluble factor induces rearrangement of, IP_3 formation, intracellular Ca^{2+} mobilization, 1263
Microtubules
  autocrine motility factor receptor is marker for distinct membranous tubular organelle, 459
  Spnr is localized to cytoplasmic, murine RNA-binding protein, 1023
  structure of growing microtubule ends, two-dimensional sheets close into tubes at variable rates, 1311
  three-dimensional ultrastructural analysis of *Saccharomyces cerevisiae* mitotic spindle, 1601
Microvilli, receptor positioning in does not require interaction with α-actinin, cytoplasmic domain of L-selectin interacts with cytoskeletal proteins via α-actinin, 1155
Midkine, is regulated by retinoic acid and epithelial–mesenchymal interactions in developing mouse tooth, cell proliferation and morphogenesis, heparin-binding growth/differentiation factor, 267
Mitochondria, receptor subunit for protein import into, Mas37p, 25
Mitosis
  human protein kinase implicated in spindle formation during, cell cycle regulation of activity and subcellular localization of PLK1, 1617
  inhibition of ribosomal RNA gene transcription during, 561
Mitosis promoting factor, nuclear envelope breakdown is under nuclear not cytoplasmic control in sea urchin zygotes, 1447
Molecular weight forms, possible intracellular signaling by, differential modulation of cell phenotype by molecular weight forms of basic fibroblast growth factor, 233

Morphogenesis, *bcl-2* overexpression inhibits cell death and promotes, but not tumorigenesis of human mammary epithelial cells, 1363
Mouse
cadherin function in intestinal epithelium of, roles of adhesion, maintenance of differentiation, regulation of programmed cell death, 489
cardiac and skeletal muscle expression in, myosin light chain 3F regulatory sequences, 383
cholesterol depletion and modification of COOH-terminal targeting sequence of prion protein, inhibition of scrapie isoform, 121
midkine is regulated by retinoic acid and epithelial–mesenchymal interactions in developing tooth of, cell proliferation and morphogenesis, heparin-binding growth/differentiation factor, 267
mRNA
conserved epitope on subset of SR proteins defines larger family of, splicing factors, 899
increased intracellular Ca^{2+} selectively suppresses IL-1–induced NO production by reducing stability of, iNOS, 1651
yeast nucleoporin *RAT7/NUP159* causes rapid cessation of export of, conditional allele, reversible clustering of nuclear pore complexes, 939
Muscle cells, –nerve synaptogenesis, distribution of α-dystroglycan, 1093
Myoblasts, insulin-sensitive targeting of GLUT4 glucose transporter in, COOH-terminal cytoplasmic tail, 641
Myofibrils, thin filament assembly in embryonic chick cardiac myocytes, tropomodulin requires tropomyosin for assembly, 683
Myogenesis, regulation of muscle-specific transgene by retinoic acid, 1345
Myosin, required for proper organization of *Drosophila* syncytial blastoderm, 95F unconventional myosin, 1575
Myosin I, localizes to Con A–inducible F-actin–rich structures at cell–cell contacts, SH3 domain, rat, 819
Myosin light chain 1/3, regulation of muscle-specific transgene by retinoic acid, 1345
Myosin light chain 3F regulatory sequences, confer cardiac and skeletal muscle expression, transgenic mice, 383
myr 3, myosin I from rat localizes to Con A–inducible F-actin–rich structures at cell–cell contacts, SH3 domain, 819
N-Acetylgalactosaminylphosphotransferase, interacts with endogenous proteoglycan ligand, retina cell surface, inhibition of cadherin-mediated adhesion, 1391
NADPH:protochlorophyllide oxidoreductase, enzymatic product formation impairs translocation competence of, chloroplast receptor–binding function, plastid precursor protein, 299
Nascent chain, interacts with Sec61p, stage- and ribosome-specific alterations, translocation across ER membrane, 957
Nerves, –muscle synaptogenesis, distribution of α-dystroglycan, embryonic nerve, 1093
Neurites, Ca^{2+} waves in PC12, bidirectional receptor-oriented form of Ca^{2+} signaling, 797
Neuroblastoma cells, formation of detergent-resistant complexes without caveolin, 619
Neuroectoderm, cell differentiation into, apoptosis, absence of functional retinoblastoma family proteins, 779
Neuroendocrine cells, 7B2 protein facilitates maturation of proPC2 in, expression of enzymatic activity, 1641
Neurofilament subunit proteins, overexpression of human NFM subunit in transgenic mice modifies level of endogenous NFL and phosphorylation state of NFH subunits, 1629
Neurofilaments, two functions of carboxyl-terminal tail domain of NF-M upon assembly of, cross-bridge formation and longitudinal elongation of filaments, 411
Neurons, retrograde and transcytotic transport in, trafficking of cell surface β-amyloid precursor protein, 431
Neurons, transforming growth factor-β1 regulates axon/Schwann cell interactions, 443
Neutrophils, exocytotic fusion pore of small granules has conductance similar to ion channel, 99
NF-M, two functions of carboxyl-terminal tail domain of, neurofilament assembly, cross-bridge formation and longitudinal elongation of filaments, 411
Nitric oxide, increased intracellular Ca^{2+} selectively suppresses IL-1–induced production of, reducing iNOS mRNA stability, 1651
NSF, required for stack formation, reconstitution of vesiculated Golgi membranes into stacks of cisternae, 577
Nuclear domains, transcription-dependent redistribution of large subunit of RNA polymerase II to, 287
Nuclear envelope breakdown, is under nuclear not cytoplasmic control in sea urchin zygotes, 1447
Nuclear localization
Drosophila protein with cell cycle-dependent, pendulin is required for normal cell proliferation, 1491
in hnRNP A1 protein, 551
Nuclear pore complex
assembly of, biochemical assay for annulate lamellae formation, 1459
reversible clustering of, conditional allele of yeast nucleoporin *RAT7/NUP159* causes rapid cessation of mRNA export, 939
structural interaction between a specific translocating RNP particle and, 1205
Nuclear pore complex protein p62, NTF2 interacts with, cytosolic factor for nuclear import, 925
Nuclear protein import, *overgrown hematopoietic organs-3l* tumor suppressor gene of *Drosophila*, *importin*-like protein accumulates in nucleus at onset of mitosis, 1473
Nuclear signaling, regulates collagenase gene expression in response to integrin-derived signals, 1707
Nuclear transport factor 2, interacts with nuclear pore complex protein p62, cytosolic factor for nuclear import, 925
Nucleolus organizing region, inhibition of ribosomal RNA gene transcription during, 561
Nucleoporin
causes rapid cessation of mRNA export and reversible clustering of nuclear pore complexes, conditional allele of yeast *RAT7/NUP159*, 939
nuclear pore complex assembly studied with biochemical assay for annulate lamellae formation, 1459
Oocytes, nuclear lamin isoprenylation in, *Xenopus*, lamin B3, uptake into nucleus, 17
Osteonectin, as major glutaminyl substrate, transglutaminase-catalyzed matrix cross-linking in differentiating cartilage, 881
Outer arm dynein, is a WD-repeat protein required for arm assembly, 78,000 M_r intermediate chain of *Chlamydomonas*, 169
Overgrown hematopoietic organs-3l, tumor suppressor gene of *Drosophila*, *importin*-like protein accumulates in nucleus at onset of mitosis, 1473
p85α, interactions with actin filaments and focal adhesion kinase, integrin-dependent translocation of phosphoinositide 3-kinase to cytoskeleton of thrombin-activated platelets, 831
βpat-3, characterization of heterodimers of, integrin receptors in *Caenorhabditis elegans*, 1127
PC12 cells
Ca^{2+} waves in, neurites, bidirectional receptor-oriented form of Ca^{2+} signaling, 797
similar subcellular localization and biochemical properties of cellubrevin and synaptobrevins in, 219
PEB1 gene, in *Saccharomyces cerevisiae*, hydrophilic intra-peroxisomal protein, WD repeat family, import of thiolase into peroxisomes, 65
Pendulin, is required for normal cell proliferation, *Drosophila* protein with cell cycle-dependent nuclear localization, 1491
Perinucleolar compartment, contains several RNA polymerase III transcripts and polypyrimidine tract-binding protein hnRNP I, 1181
Peripheral nerve, E-cadherin–mediated adhesion in, Schwann cell architecture stabilized by autotypic adherens junctions, 189
Peripheral neurons, calsensin expressed in subset of, novel calcium-binding protein, leech, single axon tract, 1355
Permeability, of gap junction channels in connexin-transfected HeLa cells, selective formation, 805
Peroxisomes
import of thiolase into, intra-peroxisomal protein is member of WD repeat family, *PEB1* in *Saccharomyces cerevisiae*, 65
proliferation of, promotion by Pmp27, 345
Phosphoinositide 3-kinase, integrin-dependent translocation of, cytoskeleton of thrombin-activated platelets, interactions of p85α with actin filaments and focal adhesion kinase, 831
Phosphorylation
insulin stimulates, tyrosine, caveolin, 1523
of NFH subunits, overexpression of human NFM subunit in transgenic mice modifies level of endogenous NFL, 1629
PIP_2, CapG overexpression on agonist-induced motility and second messenger generation, 147
Plakoglobin, associated with β-catenin and α-catenin with vascular endothelial cadherin, molecular organization of endothelial cell to cell junctions, 203
Plasma membrane, barriers for lateral diffusion of transferrin receptor in, receptor dragging by laser tweezers, fence versus tether, 1559
Plasminogen activator receptor, is localized in caveolae, GPI-linked protein, urokinase, 335
Plasticity, in epithelial cell phenotype, modulation of expression of different cadherin cell adhesion molecules, 507

Plastid protein, NADPH:protochlorophyllide oxidoreductase, enzymatic product formation impairs chloroplast receptor–binding function and translocation competence, 299
Plastin, functional role of during entry of *Shigella flexneri* into HeLa cells, cytoskeletal rearrangements, 367
PLK1, a human protein kinase implicated in mitotic spindle formation, cell cycle regulation of activity and subcellular localization of PLK1, 1617
Pmp27, promotes peroxisomal proliferation, 345
Polymerase II large subunit, transcription-dependent redistribution of, discrete nuclear domains, 287
Polymerase III, perinucleolar compartment contains several RNA transcripts of, polypyrimidine tract-binding protein hnRNP I, 1181
Polypyrimidine tract-binding protein hnRNP I, perinucleolar compartment contains, several RNA polymerase III transcripts, 1181
PR65, differential methylation and altered conformation of cytoplasmic and nuclear forms of protein phosphatase 2A during cell cycle progression, 397
pRB proteins, involvement in TGFβ-dependent epithelial cell hypertrophy, 245
Prion protein, COOH-terminal targeting sequence of, cholesterol depletion and modification, inhibition of scrapie isoform, 121
Programmed cell death, role of cadherin in regulation of, mouse intestinal epithelium, roles of adhesion and maintenance of differentiation, 489
Pro-α1(I) collagen, *cis*-acting DNA elements of promoter of, mouse, direct expression of reporter genes to different type I collagen-producing cells in transgenic mice, 1421
Proliferation, calcitonin gene-related protein promotes Schwann cell, 789
proPC2, 7B2 facilitates maturation of, neuroendocrine cells, expression of enzymatic activity, 1641
Protamine-1, Spnr, murine RNA-binding protein that is localized to cytoplasmic microtubules, 1023
protein
  7B2, facilitates maturation of proPC2 in neuroendocrine cells, expression of enzymatic activity, 1641
  dyadic, immunolocalization of sarcolemmal dihydropyridine receptor and sarcoplasmic reticular triadin and ryanodine receptor in rabbit ventricle and atrium, 673
  pRB, involvement in TGFβ-dependent epithelial cell hypertrophy, 245
  SR, conserved epitope on subset of, pre-mRNA splicing factors, 899
Protein anchoring, yeast Gaa1p is required for, completed GPI anchor, 629
Protein import
  a cytosolic factor for, NTF2 interacts with nuclear pore complex protein p62, 925
  Mas37p is a novel receptor subunit for, mitochondria, 25
Protein kinase, implicated in mitotic spindle formation, human, cell cycle regulation of activity and subcellular localization of PLK1, 1617
Protein phosphatase 2A, differential methylation and altered conformation of cytoplasmic and nuclear forms of, cell cycle progression, 397
Protein sorting, to vacuole in yeast, vesicle-mediated protein transport, regulatory interactions between Vps15 protein kinase and Vps34 PtdIns 3-kinase, 321
Protein targeting, autocrine motility factor receptor is marker for distinct membranous tubular organelle, 459
Proteoglycan, hepatocyte growth factor/scatter factor modulates cell motility, proliferation, and proteoglycan synthesis of chondrocytes, 1411
Proteoglycan ligand, interacts with N-acetylgalactosaminylphosphotransferase, retina cell surface, inhibition of cadherin-mediated adhesion, 1391
Proteolytically generated trypomastigote factor, trypanosome-soluble factor induces IP_3 formation, intracellular Ca^{2+} mobilization and microfilament rearrangement in host cells, 1263
Pseudomonas, cells with altered expression of low-density lipoprotein receptor–related protein in, exotoxin-mediated selection, 1533
Rabbit, immunolocalization of sarcolemmal dihydropyridine receptor and sarcoplasmic reticular triadin and ryanodine receptor in, ventricle and atrium, 673
Radixin, molecular dissection of, distinct and interdependent functions of amino- and carboxy-terminal domains, 1007
Rat
  myosin I from, SH3 domain, Con A–inducible F-actin–rich structures at cell–cell contacts, 819
  reassembly of Golgi stacks from mitotic Golgi fragments in cell-free system, 605
rbSEC1, localizes with syntaxin 1 and SNAP-25, axon, 105
Receptor chains, intracellular localization and fate of, endocytosis of interleukin 2 receptors in human T lymphocytes, 55
Receptor tyrosine kinase, involved in angiogenesis, endothelial, 895
Repressor Activator Protein 1, carboxy termini of Sir4 and Rap1 affect Sir3 localization, multicomponent complex required for yeast telomeric silencing, 909
Retention motifs, steric masking of dilysine endoplasmic reticulum, assembly of human high affinity receptor for immunoglobulin E, 971
Retina, N-acetylgalactosaminylphospho-transferase in cell surface of, interaction with endogenous proteoglycan ligand, inhibition of cadherin-mediated adhesion, 1391
Retinoblastoma protein, cells differentiating into neuroectoderm undergo apoptosis in absence of, 779
Retinoic acid
  midkine is regulated by, heparin-binding growth/differentiation factor, epithelial–mesenchymal interactions in developing mouse tooth, cell proliferation and morphogenesis, 267
  regulation of muscle-specific transgene by, 1345
Retrograde transport, capacity to retrieve escaped ER proteins extends to *trans*-most cisterna of Golgi stack, 309
Ribonucleic acid trafficking 7 gene, causes rapid cessation of mRNA export and reversible clustering of nuclear pore complexes, conditional allele of yeast nucleoporin *RAT7/NUP159*, 939
RNA binding domains, nuclear localization domain in hnRNP A1 protein, 551
RNA-binding protein, murine Spnr is localized to cytoplasmic microtubules, 1023
RNP particle, structural interaction between nuclear pore complex and, translocation, 1205
R-Ras, promotes apoptosis caused by growth factor deprivation via Bcl-2 suppressible mechanism, 1103
rRNA synthesis, inhibition of during mitosis, 561
Ryanodine receptor
  immunolocalization of, sarcolemmal dihydropyridine receptor, sarcoplasmic reticular triadin, rabbit ventricle and atrium, 673
  molecular architecture of membranes involved in excitation–contraction coupling of cardiac muscle, 659
Saccharomyces cerevisiae
  cell cycle checkpoint monitors cell morphogenesis in, 739
  Drosophila cell cycle gene *fizzy* has homology to *CDC20* gene of, normal degradation of cyclins A and B during mitosis, 725
  Mas37p, a novel receptor subunit for protein import into mitochondria, 25
  nucleoporin *RAT7/NUP159* in, conditional allele, rapid cessation of mRNA export and reversible clustering of nuclear pore complexes, 939
  patterns of bud-site selection in, 751
  PEB1 in, hydrophilic intra-peroxisomal protein, WD repeat family, import of thiolase into peroxisomes, 65
  Pmp27 promotes peroxisomal proliferation, 345
  protein sorting to vacuole in, vesicle-mediated protein transport, regulatory interactions between Vps15 protein kinase and Vps34 PtdIns 3-kinase, 321
  role of Bud3p in producing axial budding pattern of, 767
  three-dimensional ultrastructural analysis of mitotic spindle of, 1601
  vps1 mutant cells in, Golgi and vacuolar membrane proteins, plasma membrane, 35
sad1$^+$ gene, associates with fission yeast spindle body pole and is essential for viability, product of spindle formation gene, 1033
Salmonella typhimurium, targeting of, vesicles containing lysosomal membrane glycoproteins, mannose 6-phosphate receptors, 81
Sarcolemmal dihydropyridine receptor, immunolocalization of, sarcoplasmic reticular triadin, ryanodine receptor, rabbit ventricle and atrium, 673
Sarcoplasmic reticular triadin, immunolocalization of, sarcolemmal dihydropyridine receptor, ryanodine receptor, rabbit ventricle and atrium, 673
SC35 splicing protein, transcription-dependent redistribution of large subunit of RNA polymerase II to discrete nuclear domains, 287
Schwann cells
  calcitonin gene-related protein promotes proliferation of, 789
  interactions with axons regulated by transforming growth factor-β1, 443
  stabilized by autotypic adherens junctions, E-cadherin–mediated adhesion in peripheral nerve, 189
Scj1p, a yeast DnaJ homologue, functions in endoplasmic reticulum with BiP/Kar2p, conserved domain that specifies interactions with Hsp70s, 979

Scrapie isoform, inhibited by cholesterol depletion and modification, COOH-terminal targeting sequence of prion protein, 121
Sea urchin, nuclear envelope breakdown is under nuclear not cytoplasmic control in zygotes of, 1447
Sec61p, interact with nascent chain, stage- and ribosome-specific alterations, translocation across ER membrane, 957
Sequestration, of acetylated LDL and cholesterol crystals, human monocyte-derived macrophages, 133
Shigella flexneri, entry into HeLa cells, cytoskeletal rearrangements and functional role of T-plastin, 367
Signal transduction, density-sensing factor regulates, *Dictyostelium*, 1251
Silent Information Regulatory proteins 3 and 4, carboxy termini of Sir4 and Rapl affect Sir3 localization, multicomponent complex required for yeast telomeric silencing, 909
Skeletal muscle, myosin light chain 3F regulatory sequences confer expression in, cardiac muscle, transgenic mice, 383
Smooth muscle cells, low density lipoprotein receptor–related protein as an endocytic receptor for thrombospondin-1, 1403
SNAP-25, rbSEC1A and B colocalize with, syntaxin 1, axon, 105
Sorting
  molecular size–fractionation during endocytosis in macrophages, 989
  oligomerized transferrin receptors are selectively retained by, lumenal sorting signal in long-lived endocytic recycling compartment, 1509
Speckle domains, discrete nuclear domains, transcription-dependent redistribution of large subunit of RNA polymerase II, 287
Spermatid perinuclear RNA-binding protein, a murine RNA-binding protein that is localized to cytoplasmic microtubules, Spnr, 1023
Spindle
  human protein kinase implicated in formation of, cell cycle regulation of activity and subcellular localization of PLK1, 1617
  three-dimensional ultrastructural analysis of, *Saccharomyces cerevisiae*, 1601
Spindle assembly, impact of chromosomes and centrosomes on, in living cells, 1287
Spindle pole body, product of spindle formation gene $sad1^+$ associates with, fission yeast, viability, 1033
Splicing factors, conserved epitope on subset of SR proteins defines larger family of, pre-mRNA, 899
SR proteins, conserved epitope on subset of, pre-mRNA splicing factors, 899
Submandibular gland, perturbation of branching epithelial morphogenesis of, antibodies against domain E3 of laminin-1 and integrin $\alpha 6$ subunit, 521
Synaptobrevins, similar subcellular localization and biochemical properties with cellubrevin, PC12 cells, 219
Synaptogenesis, embryonic nerve–muscle, distribution of α-dystroglycan, 1093
Syntaxin, rbSEC1A and B not in stable complex with, syntaxin 1, SNAP-25, axon, 105
Talin, homologue of *Dictyostelium* assembles at leading edge in response to chemoattractant, 179
β-Tectorin, molecular cloning of, chick, extracellular matrix molecule of inner ear, 535
Telomeres, silencing of in yeast, carboxy termini of Sir4 and Rapl affect Sir3 localization, multicomponent complex, 909
Tetrahymena thermophila, acetylation of lysine 40 in α-tubulin is not essential in, 1301
TGF-α, extracellular matrix regulates whey acidic protein gene expression by suppression of, mouse mammary epithelial cells, in culture and transgenic mice, 1115
TGN, capacity to retrieve escaped ER proteins extends to *trans*-most cisterna of Golgi stack, 309
Thiolase, import into peroxisomes, *PEB1* in *Saccharomyces cerevisiae*, hydrophilic intra-peroxisomal protein, WD repeat family, 65
Thrombospondin-1, low density lipoprotein receptor–related protein as an endocytic receptor for, 1403
Tooth development, heparin-binding growth/differentiation factor is regulated by retinoic acid and epithelial–mesenchymal interactions in, mouse, cell proliferation and morphogenesis, midkine, 267
Transcytotic transport, in cultured neurons, trafficking of cell surface β-amyloid precursor protein, 431
Transferrin receptor
  barriers for lateral diffusion of, plasma membrane, receptor dragging by laser tweezers, fence versus tether, 1559
  selectively retained by lumenal sorting signal, long-lived endocytic recycling compartment, oligomerized transferrin receptors, 1509
Transforming growth factor-β1
  -dependent epithelial cell hypertrophy, involvement of pRB family, 245
  modulates β1 and β5 integrin receptors, expression of $\alpha v\beta 6$ heterodimer in human keratinocytes, implications for wound healing, 853
  regulates axon/Schwann cell interactions, 443
Transgene, regulation of muscle-specific, retinoic acid, 1345
Transgenic mice
  different type I collagen-producing cells in, *cis*-acting DNA elements of mouse pro-α1(I) collagen promoter direct expression of reporter genes, 1421
  overexpression of human NFM subunit in, endogenous NFL and phosphorylation state of NFH subunits, 1629
Transglutaminase-catalyzed matrix cross-linking in differentiating cartilage, osteonectin as major glutaminyl substrate, 881
Translocation
  enzymatic product formation impairs of competence NADPH:protochlorophyllide oxidoreductase, chloroplast receptor–binding function, plastid precursor protein, 299
  nascent chain–Sec61p interactions accompany, ER membrane, stage- and ribosome-specific alterations, 957
  of RNP particle, structural interaction between nuclear pore complex, 1205
Tropomodulin, requires tropomyosin for assembly, thin filament assembly in embryonic chick cardiac myocytes, 683
Tropomyosin
  mutants affect cytokinesis, forced expression of chimeric human fibroblasts, 697
  tropomodulin requires, thin filament assembly in embryonic chick cardiac myocytes, 683
Trypanosome-soluble factor induces IP_3 formation, intracellular Ca^{2+} mobilization and microfilament rearrangement in host cells, 1263
Tubular organelles, autocrine motility factor receptor is marker for, membranes, 459
α-Tubulin, acetylation of lysine 40 in, not essential in *Tetrahymena thermophila*, 1301
Tubulin, structure of growing microtubule ends, two-dimensional sheets close into tubes at variable rates, 1311
Tumor suppressor, *overgrown hematopoietic organs-3* gene of *Drosophila*, *importin*-like protein accumulates in nucleus at onset of mitosis, 1473
Tumorigenesis, *bcl-2* overexpression inhibits cell death and promotes morphogenesis but not, human mammary epithelial cells, 1363
Type I collagen, -producing cells in transgenic mice, *cis*-acting DNA elements of mouse pro-α1(I) collagen promoter direct expression of reporter genes, 1421
Tyrosine kinase
  insulin stimulates tyrosine phosphorylation of caveolin, 1523
  recruitment of epidermal growth factor receptors into coated pits requires, 47
Tyrosine kinase receptor, stereochemical model for activation of, oligomerization of epidermal growth factor receptors on A431 cells studied by time-resolved fluorescence imaging microscopy, 1543
unc-44 gene, necessary for proper axonal guidance in *Caenorhabditis elegans*, ankyrin-related gene, 1081
Urokinase-type plasminogen activator receptor is localized in caveolae, GPI-linked protein, 335
Vacuole
  Golgi and vacuolar membrane proteins reach, *vps1* mutant yeast cells, plasma membrane, 35
  protein sorting to, vesicle-mediated protein transport, regulatory interactions between Vps15 protein kinase and Vps34 PtdIns 3-kinase, yeast, 321
Vascular endothelial growth factor, endothelial receptor tyrosine kinases involved in angiogenesis, 895
Vesiculated Golgi membranes, reconstitution of into stacks of cisternae, NSP required in stack formation, 577
Vps1 protein, in mutant yeast cells, Golgi and vacuolar membrane proteins, plasma membrane, 35
Vps15, regulatory interactions between Vps34 PtdIns 3-kinase and, vesicle-mediated protein transport, protein sorting to vacuole in yeast, 321
WD repeat
  hydrophilic intra-peroxisomal protein is member of, *PEB1* in *Saccharomyces cerevisiae*, import of thiolase into peroxisomes, 65
  required for arm assembly, 78,000 M_r intermediate chain of *Chlamydomonas*, outer arm dynein, 169
Whey acidic protein gene, extracellular matrix regulates expression of, suppression of TGF-α in mouse mammary epithelial cells, in culture and transgenic mice, 1115
Wound healing, implications for, transforming growth factor-β1 modulates β1 and β5 integrin receptors, expression of $\alpha v\beta 6$ heterodimer in human keratinocytes, 853

Xenopus
distribution of α-dystroglycan during embryonic nerve–muscle synaptogenesis, 1093
nuclear lamin isoprenylation oocytes in, lamin B3, uptake into nucleus, 17
nuclear pore complex assembly studied with biochemical assay for annulate lamellae formation, 1459
regulation of DNA synthesis, cdk2, Cip1, licensing factor, 1
Yeast
DnaJ homologue in, Scj1p can function in endoplasmic reticulum with BiP/Kar2p, conserved domain that specifies interactions with Hsp70s, 979
Gaa1p in, required for attachment of completed GPI anchor onto proteins, 629
telomeric silencing in, carboxy termini of Sir4 and Rap1 affect Sir3 localization, multicomponent complex, 909